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The PALIMPSEST



John Deere Ottumwa Works

Industries of Iowa

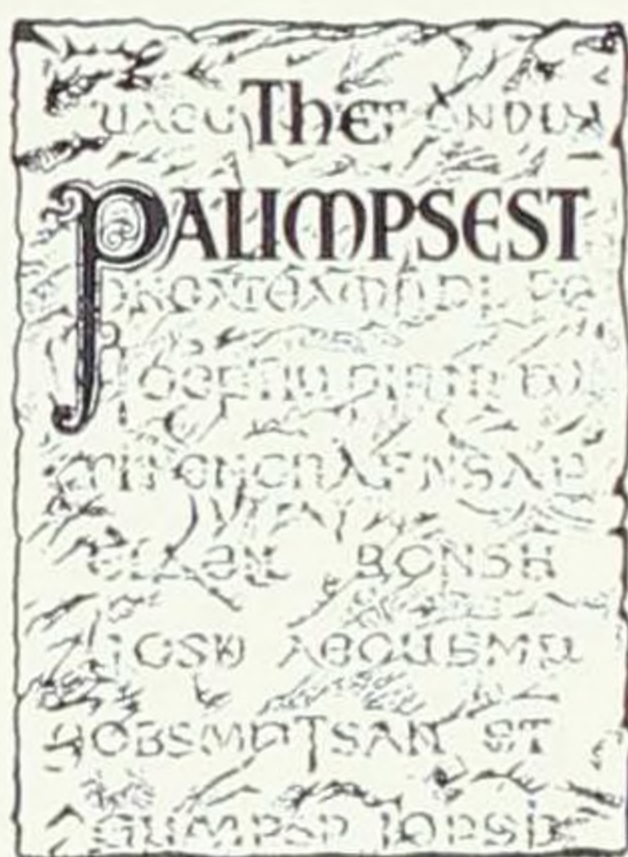
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Iowa City, Iowa

MARCH, 1967

SPECIAL EDITION — FIFTY CENTS



The Meaning of Palimpsest

In early times a palimpsest was a parchment or other material from which one or more writings had been erased to give room for later records. But the erasures were not always complete; and so it became the fascinating task of scholars not only to translate the later records but also to reconstruct the original writings by deciphering the dim fragments of letters partly erased and partly covered by subsequent texts.

The history of Iowa may be likened to a palimpsest which holds the record of successive generations. To decipher these records of the past, reconstruct them, and tell the stories which they contain is the task of those who write history.

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Illustrations

Illustrations used came from the individual companies, chambers of commerce, or from the Society's picture file.

Authors

William J. Petersen is superintendent of the State Historical Society of Iowa and L. O. Cheever is associate editor.

The May 1956 issue of *The Palimpsest* dealt with 54 of the 63 Iowa industries employing 500 or more workers. Largely pictorial and with only capsule accounts of each industry, the issue received widespread applause from our members. Designated as the first of a series, this boldly designed venture came to an abrupt stop with the loss of our research associate to a more affluent State Historical Society. The present number of *The Palimpsest* renews the project, this time starting with Iowa industries with 1,000 or more employees. Future issues will cover firms with 500 to 999 workers, 250 to 499 employees, and 100 to 249 persons. Several numbers of *The Palimpsest* will be needed to cover the many small but unique industries with less than 100 employees. One may readily envision a handsome volume emerging when the series is completed.

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THE PALIMPSEST

EDITED BY WILLIAM J. PETERSEN

VOL. XLVIII

ISSUED IN MARCH 1967

No. 3

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Industry in 1840

In 1840, seven years after permanent settlement began in the Black Hawk Purchase, the first federal census was started in the Territory of Iowa. The statistics of the sixth United States enumeration were "completed and closed within five calendar months" — between June 1 and November 1, 1840. They revealed that industry was still in the handicraft stage.

Only eighteen of the twenty-two counties that had been established by law were included in the Census of 1840, and they contained 43,112 inhabitants. The five most populous counties were Van Buren — 6,146, Lee — 6,093, Des Moines — 5,577, Henry — 3,772, and Dubuque — 3,059. The smallest population was in Jones County with 471, and Delaware County with only 168 inhabitants.

Although there were some who opposed the federal government's making such investigations the *Iowa Territorial Gazette and Burlington Advertiser* of February 6, 1841, felt otherwise. "The

census of 1840," the Burlington editor declared, would mark an era in the history of American Agriculture and would "furnish a more correct view of our country — our whole country, in this respect than has ever been given. . . . There can be no doubt that the tables which are provided from these returns will furnish abundant matter for the consideration of the statesman as well as the agriculturist; and probably the example now first set of such an enumeration of the products of labor, will be followed at each succeeding census of this great nation." The contrast between this first manufacturing report on Iowa and those of recent years staggers the imagination.

The Census of 1840 clearly revealed the humble beginnings of industry in the Territory of Iowa. The following categories of manufacturing called for in the Census of 1840 were not represented in Iowa: commerce; fisheries; machinery; hardware, cutlery, etc.; precious metals; various metals; granite, marble, etc.; cotton; silk; flax; mixed manufactures; powder mills; sugar refineries; chocolate; paper; cordage; musical instruments; and ships. Several of these are of considerable importance in Iowa today and provide a livelihood to thousands of citizens.

The following industries — filling only a scant page of a book — were represented in the manufacturing enumeration of the Territory of Iowa in 1840.

INDUSTRY IN 1840

91

MANUFACTURERS	Establish- ments	Men Employed	Capital Invested	Value of Product
¹ Cannon and Small Arms	—	2	—	—
Bricks and Lime	—	39	\$ 8,200	\$ 13,710
Wool	—	—	—	800
Tobacco	—	2	—	40
Hats, Caps, and Bonnets	—	—	—	19,900
Value of straw bonnets	—	—	—	5,100
Tanneries	3	4	4,400	—
Other Leather, Saddleries, etc.	5	—	1,645	4,875
² Soap and Candles	—	1	—	—
³ Distilled & Fermented Liquors	2	3	1,500	—
Drugs and Medicines	—	7	—	2,340
Glass and Earthenware	4	7	350	1,050
⁴ Printing and Binding	4	15	5,700	—
Carriages and Wagons	—	3	1,400	1,200
⁵ Mills	118	154	166,650	95,425
6 — flour	—	—	—	—
37 — grist	—	—	—	—
75 — saw	—	—	—	—
Furniture	—	12	1,350	4,600
⁶ Houses	—	324	—	135,987
All other manu- factures	—	—	8,450	34,445
	136	573	\$199,645	\$419,472

¹ Small arms made — 40

² 9,740 lbs. of soap

4,436 lbs. tallow candles

282 lbs. spermaceti & wax candles

³ 4,310 gallons distilled and fer-
mented liquors

⁴ Weekly newspapers — 4

⁵ Barrels of flour — 4,340

⁶ Brick and stone houses built — 14
Wooden houses built — 483

Industry, however, was still in an embryonic stage a century ago. Most of the pioneers erected their own homes, made their own candles and soap, raised much of their own food, and made most of their own clothes. The simplicity of industrial development is attested by the minute directions for the preparation of shoe blacking which found their way into the pages of the *Iowa Sun*. "Perhaps the best in the world is made from elder berries. Mash the berries in your hand in a large kettle of water, set them in the shade a few days, filling it with water. After it is cool, strain and wring them through a coarse cloth, and then boil it down to the thickness of molasses. Put a small quantity with a feather on the brush, rub the shoe until there is a fine gloss. The same will make good writing ink."

But if industry was undeveloped it was nevertheless important. Population was growing steadily each year. Skilled artisans were making their way slowly westward, attracted by the high wages and the opportunity for a better life on the frontier. Lack of regular transportation and communication doubtless delayed the establishment of trade and industry during the long winter months. Twelve decades later, in 1965, the returns from industry far surpassed those from agriculture.

WILLIAM J. PETERSEN

Comments on 11 Years

In May of 1956, the Society published the first in what was hoped would be a series of reports devoted to Iowa industry. That report covered 54 companies with 500 or more employees. With this issue of *The Palimpsest* the project is revived. A few comments may shed some light on what has transpired in the 11-year period between the 1956 and 1967 reports.

Twenty-nine of the companies covered in the 1956 report are present in this issue. There were 30 companies with 1,000 workers at that time. There are 38 companies listed in this issue. Dropping from this select group since 1956 were Solar Aircraft, Des Moines, with 2,500 workers; Farley and Loetscher, Dubuque, 1,100 employees; and the Curtis Companies of Clinton, with 707 employees. A drop in employment brought the omission of Keokuk Electro-Metals of Keokuk (now Vanadium Corporation of America), Cherry-Burrell, Cedar Rapids, and Carr, Adams and Collier of Dubuque (now Caradco).

Three of the firms listed above, Farley and Loetscher, Curtis, and Caradco, were connected with the woodworking industry. The disappearance of the huge lumber rafts from the Mississippi

and the drying up of nearby sources of lumber heralded problems for those plants unable to adapt to new conditions. Along with Caradco, other Iowa woodworking firms have continued in operation through the manufacture of new items and the use of new raw materials.

Two new companies added to the 1967 list came from the electronics field, Bourns, Inc., Ames, and Standard Kollsman, Inc., Ottumwa. The other newcomer was Sheller-Globe, with plants in Keokuk and Iowa City. Fruehauf Trailer, on the 1956 list, has a new facility under construction in Fort Madison.

While meat packing and allied industries continue to dominate the state's economy, most of the larger packers showed a decrease in the number of employees. This had come about because of the closing of obsolete or uneconomical plants, the trend to small, more compact units, and the growth of automated operations. The loss in employment has been partially offset by the emergence of smaller regional packers.

The growth of companies participating in the field of farm machinery and heavy construction equipment has been a major factor in the Iowa industrial picture. The largest employer of Iowans, Deere & Company, has in excess of 18,000 workers in its four plants, an increase of 8,500 in the 11-year period. J. I. Case, with plants in Burlington and Bettendorf, and Oliver, in Charles City,

also in the farm machinery category, are in the first 11 of Iowa's largest employers.

For many years Iowa has been considered a rural state with its economy resting on an agricultural foundation. Nothing could be further from the truth. Iowa is in a transition period — from rural-urban to urban-rural. It is a period which has brought a decline in farming employment, a slowing of population growth, but the erection of new or the expansion of older manufacturing complexes. Although the mechanized farming industry continues to play its part in Iowa's economy, the value of the state's industrial production in 1966 exceeded \$10 billion, more than a billion above 1965, and \$4.7 billion in 1960. The value of farm production was about a third of that for industrial production. However, 1966's \$3.3 billion total for agricultural product was \$331 million above the previous year and \$850 million more than in 1960.

Feed and grain mills dot the landscape in every direction, making their contribution to better livestock, better products, and better use of the land. But the number of persons working in these mills is very small. Take Monsanto Company of St. Louis for instance: with 17 agricultural centers in Iowa, less than 200 people are employed. The answer, of course, is automation. The mills of the state require a minimum of people for a multitude of operations. Everything is done by push button

from mixing a product with an exacting list of ingredients to bagging and stockpiling. Now even the processing and packaging of frankfurters is handled on an automatic line.

Iowa agriculture and farm-oriented industries continue to have an impact on the state's economy. Some of the more glamorous industries have now appeared on the scene. The electronics industry found Iowa a fertile field and in a 10-year period doubled the number of people employed in its factories and more than doubled the value of its production. Collins Radio is a good example. Its 11,500 employees in Cedar Rapids is the largest group employed in any single city in the state.

Employment figures for Iowa's 38 largest industrial units are as follows:

Deere	18,000	DuPont	1,600
Collins	11,500	Amana	1,500
Rath	4,088	Standard Brands	1,500
Wilson & Co.	3,600	Sylvania	1,500
Mason & Hanger	3,515	Quaker Oats	1,400
Alcoa	3,500	Armstrong	1,385
Morrell	3,500	Sheaffer	1,350
Maytag	3,405	Bendix	1,300
Dubuque Packing	3,000	Lennox	1,250
Case	2,800	Ford	1,200
Oliver	2,500	Armour	1,133
Firestone	2,400	Des Moines Register	1,100
Swift	2,400	Penick & Ford	1,075
Fisher	2,157	AMF Western	1,000
Oscar Mayer	2,082	Bourn	1,000
Meredith	2,080	Grain Processing	1,000
Sheller-Globe	2,058	Hormel	1,000
Chamberlain	1,735	Standard Kollsman	1,000
Iowa Manufacturing	1,700	Zenith	1,000

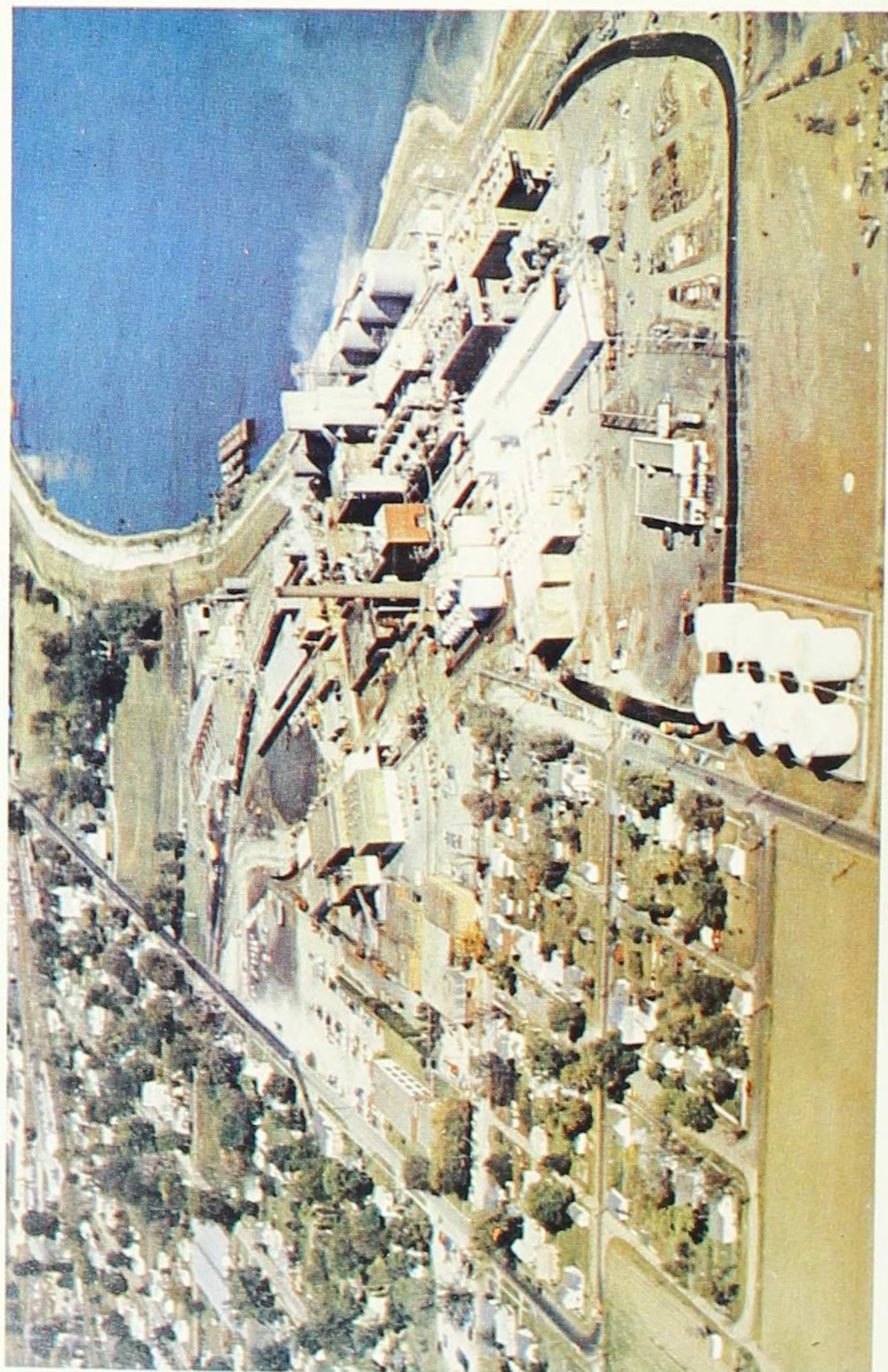
L. O. CHEEVER

IOWA INDUSTRIES: Farm-oriented

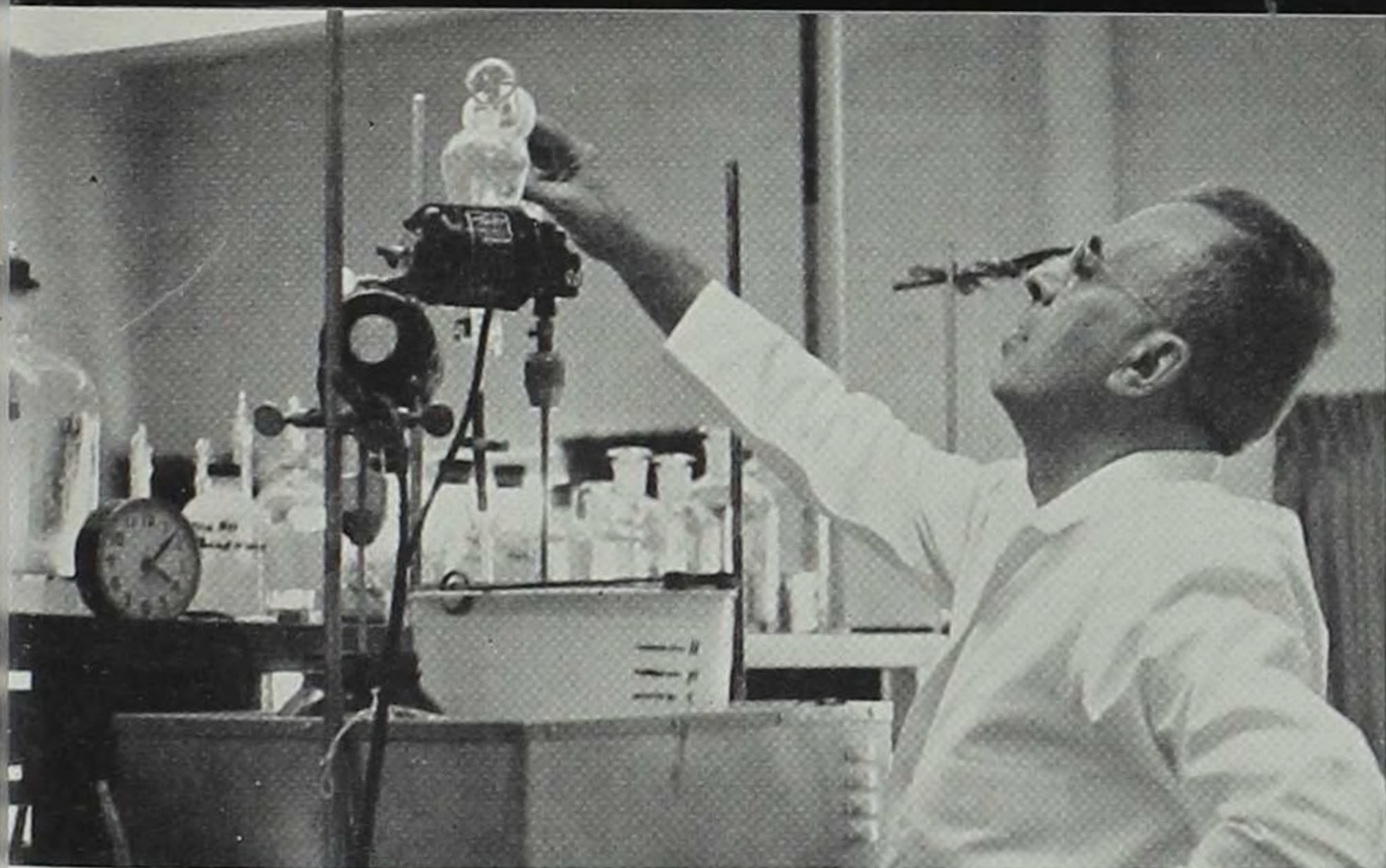
I. Grain-mill products	98
II. Meat products	103
III. Farm machinery and equipment	112

Tractor assembly line, John Deere Dubuque Works





Grain Processing plant, Muscatine



GPC seeks new and improved products and processes

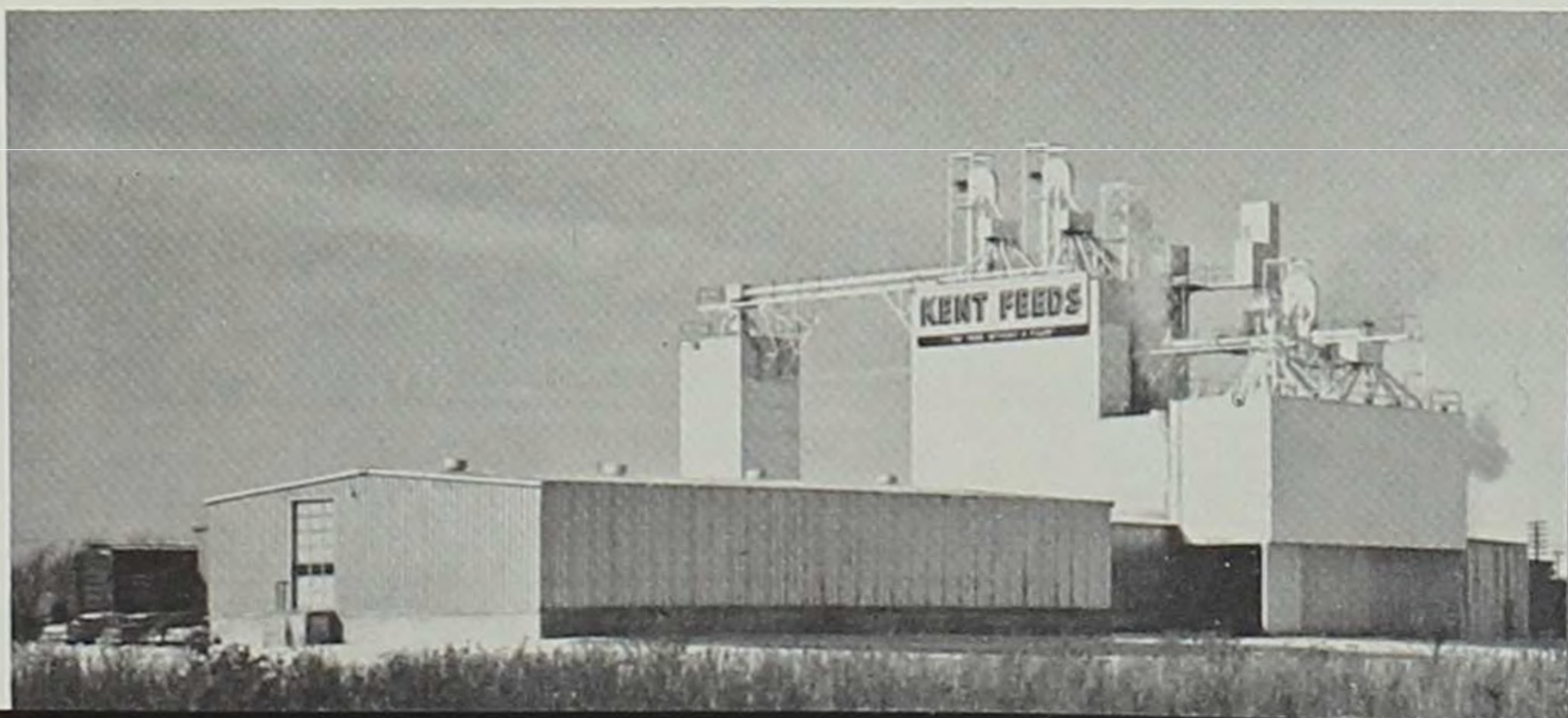


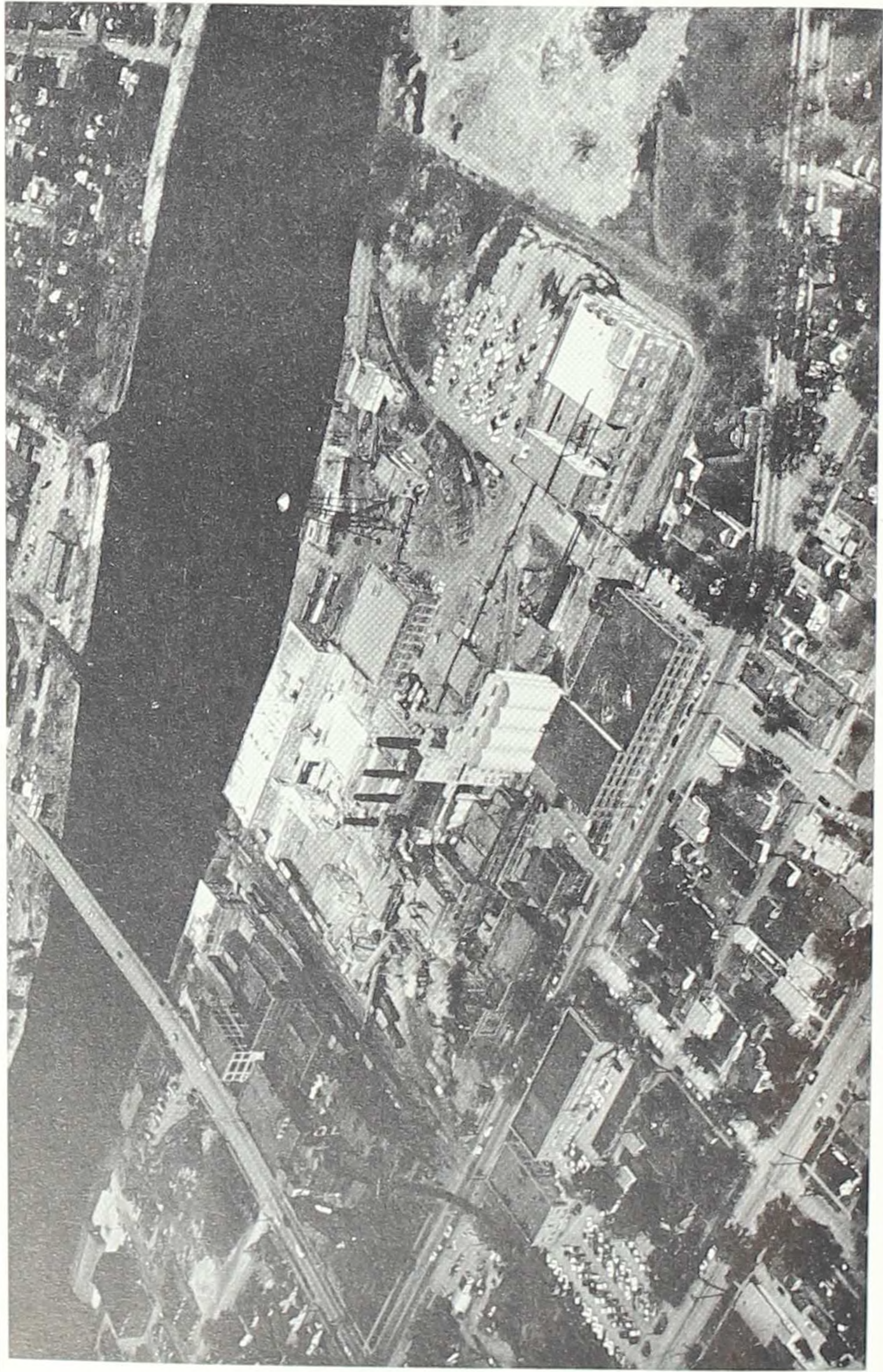
Automatic tagging and sewing equipment used

GRAIN PROCESSING CORPORATION: Muscatine

In 1927 G. A. Kent began manufacture of a cattle feed in Indianola. Nine years later the expanding business moved to Muscatine where advantage was taken of economical river transportation. Part of the original Kent mill still stands — about three miles upstream from the view shown opposite. In 1943 Kent joined with S. G. Stein to form Grain Processing Corporation. Their purpose was to operate a government-owned plant built in 1943 to manufacture grain alcohol for use in the synthetic rubber program of World War II. The plant later was purchased, enlarged, and used in the manufacture of a broadly diversified line of products derived from corn. Kent Feeds, Inc., now is a subsidiary of GPC. With plants in Muscatine, Sioux City, and Waterloo, the company employs 1,000 workers who receive annual wages in excess of \$9 million.

Kent Feeds plant, Waterloo





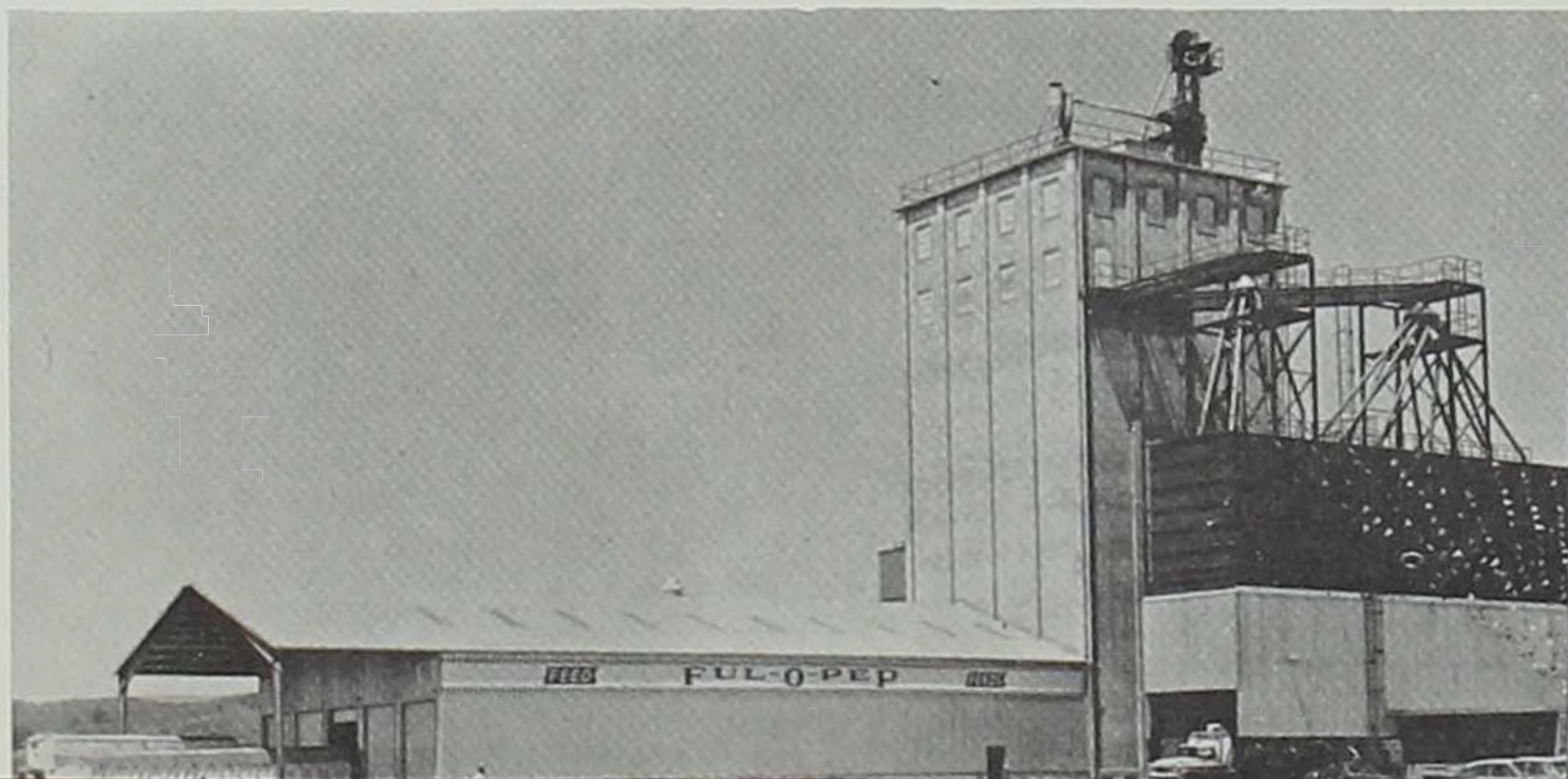
PENICK & FORD, LIMITED: Cedar Rapids

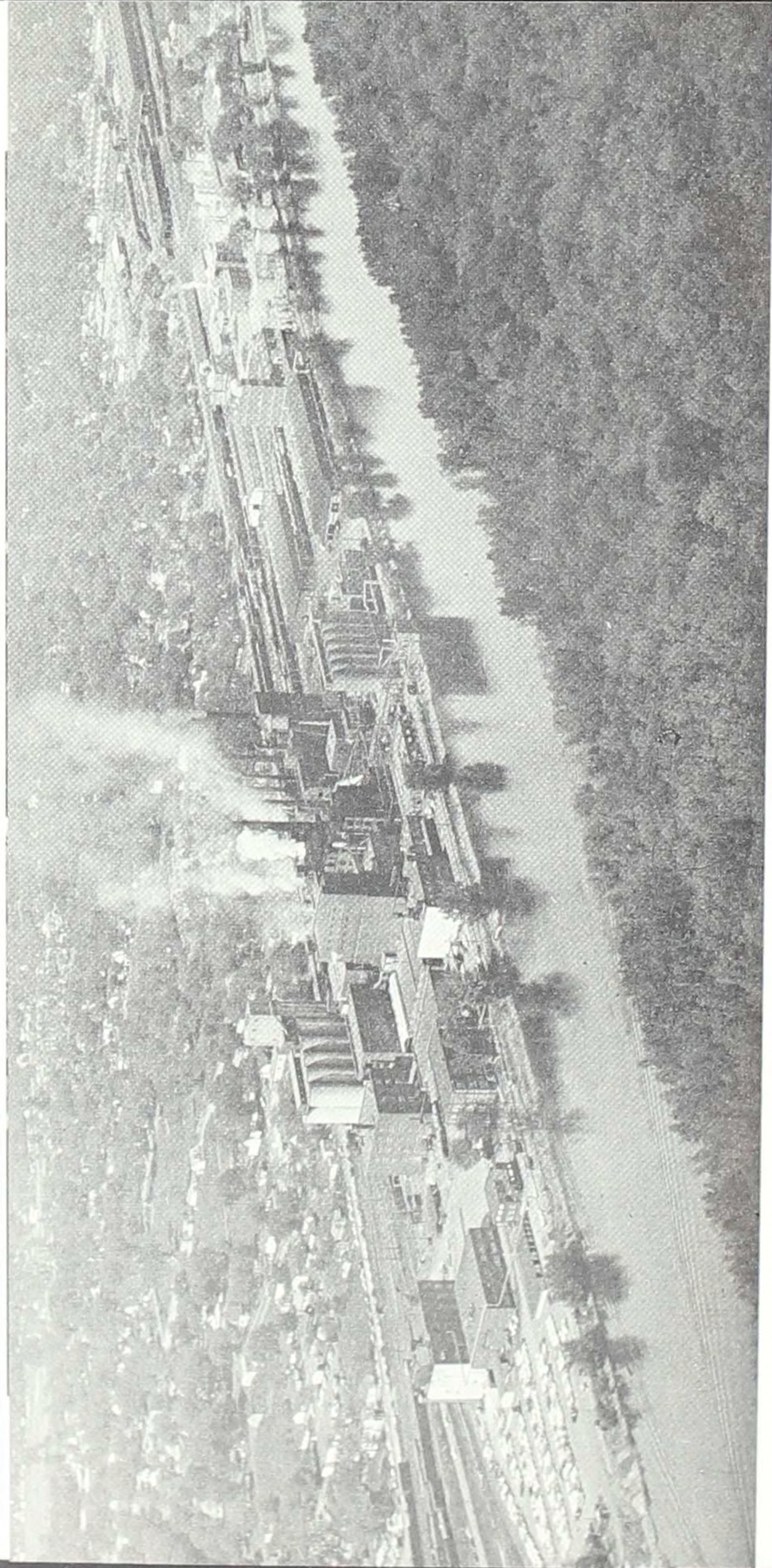
A subsidiary of R. J. Reynolds Tobacco Co., Penick & Ford's largest plant is located in Cedar Rapids. In 1966 it employed 1,075 workers with an annual payroll of approximately \$7 million. This contrasts with 500 employees and a \$600,000 payroll when the company was organized in 1920 following the purchase of Douglas Starch Works in 1919 by Penick & Ford. The chief products of the 30-acre plant are corn starches and syrups, corn oil, gluten feed, and gluten meal. Each day the plant uses more corn than the average Iowa farmer can grow in a year on a 700-acre tract of land.



THE QUAKER OATS COMPANY: Chicago

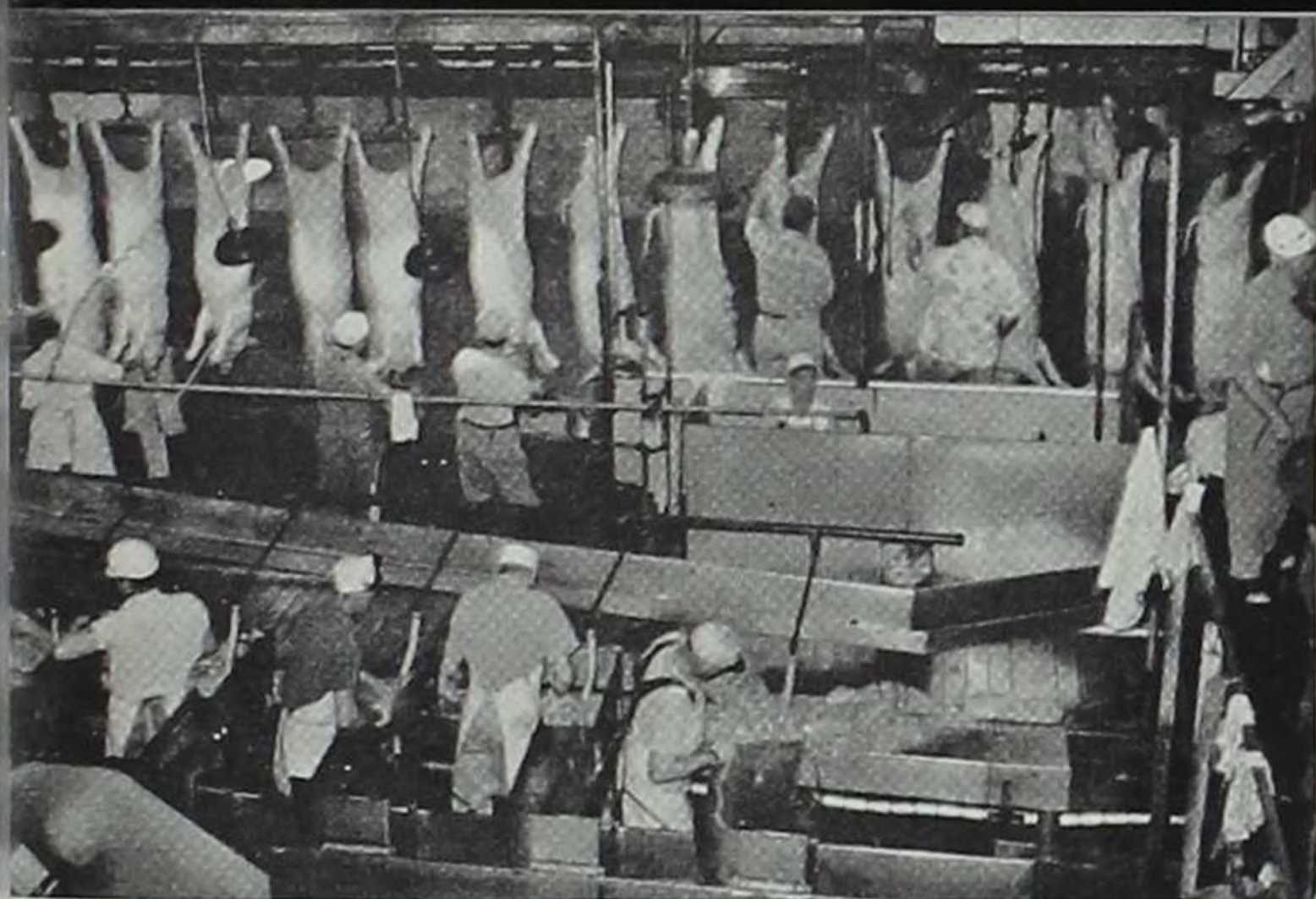
The Cedar Rapids plant (above) of Quaker Oats, with 1,400 employees, is the world's largest single-unit cereal plant. President of the company, Robert D. Stuart, Jr., is a direct descendant of Robert Stuart, one of the founders in 1873 of the North Star Oatmeal Mills of Cedar Rapids, forerunner of the present plant. The company also operates a plant in Sioux City and approximately 30 grain elevators in Iowa. Chief products processed by Iowa units are: Grocery Products: cereals, pancake mixes, cookies and crackers, pet foods, and frozen foods; Agricultural Products: livestock and poultry feeds, grains; and Chemical Products: furfural and its derivatives. Built at a cost of \$1 million, Quaker's highly automated new Ful-O-Pep feed mill in Sioux City (below) is one of the most modern to be found in the nation.





STANDARD BRANDS INCORPORATED: New York

Clinton Corn Processing Company, a division of Standard Brands Incorporated since April 16, 1956, was originally organized in 1906. Today this Clinton plant is one of the world's largest manufacturers of products made from corn. The wet milling process is used, a procedure in which corn is steeped and milled during processing in chemically treated water. Basic products are corn starch, corn syrup, dextrose, gluten meal, and gluten feed. These products are sold throughout the nation with inventories carried at some 180 locations. The Clinton plant, covering an area of 50 acres, employs 1,500 workers and pays them annual wages in excess of \$10 million. In addition to the Clinton plant, Standard Brands also has small egg breaking plants in Dubuque and Sioux City.



On the hog killing floor

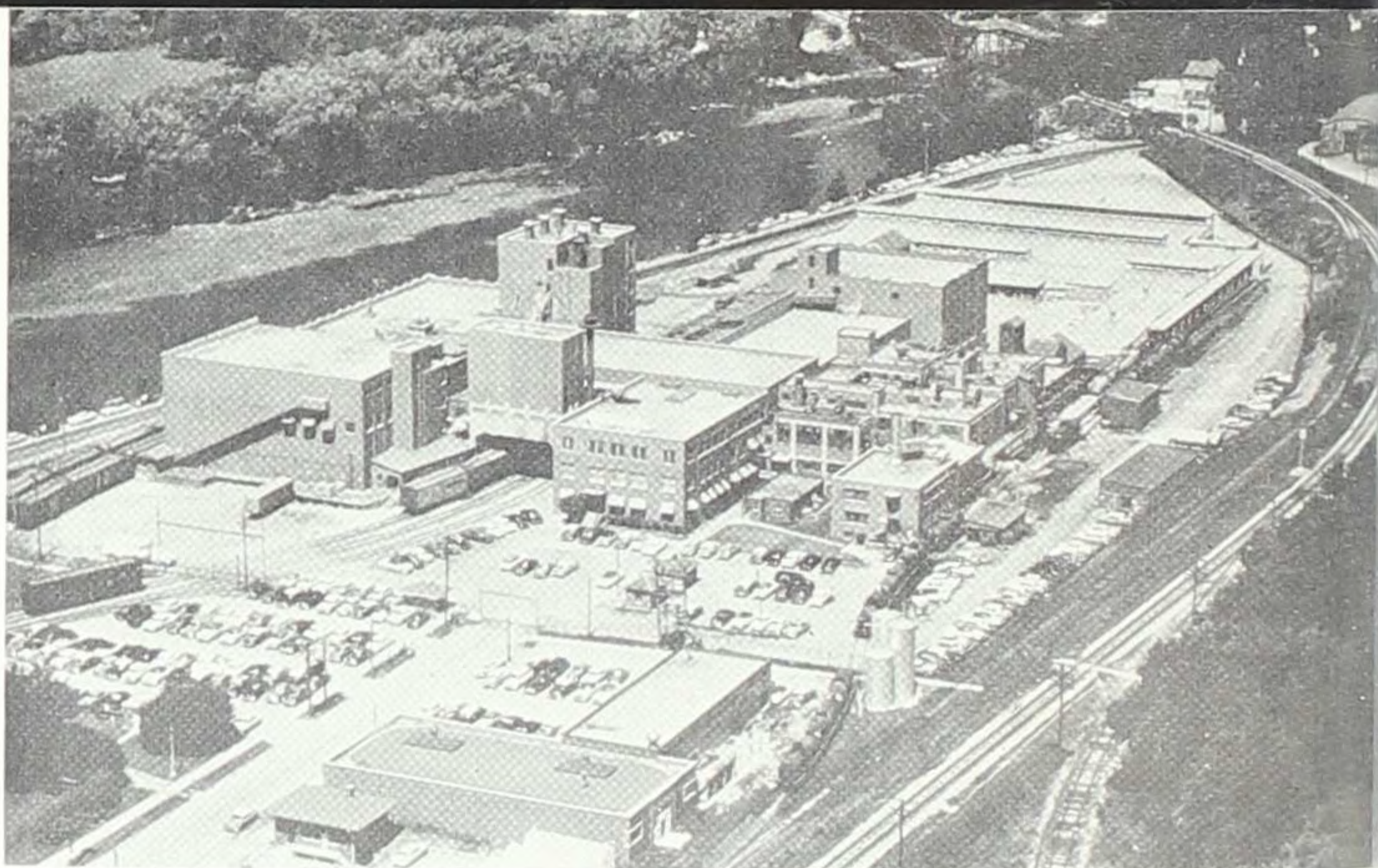


JAMES I. HUNTER
Plant manager

ARMOUR AND COMPANY: Chicago

In 1935 the Jacob E. Decker & Sons meat packing plant (below) of Mason City became a division of Armour. With 1,133 employees and an annual payroll of \$7,250,000, Decker was the city's largest industry in 1966. Starting up in October of 1899, Decker operated that first winter on the basis of 60 hogs per week. That is, 20 hogs were killed one day and then cut the following. The company has shown consistent growth, slaughtering operations expanding from a total of 4,692 in 1901 to over 1,300,000 animals in its biggest year. Decker, a full-line packer, slaughters cattle and hogs. Its manufacturing operation covers the processing of sliced bacon, sausage, smoked meats, and a complete line of canned meats.





Hormel plant at Fort Dodge

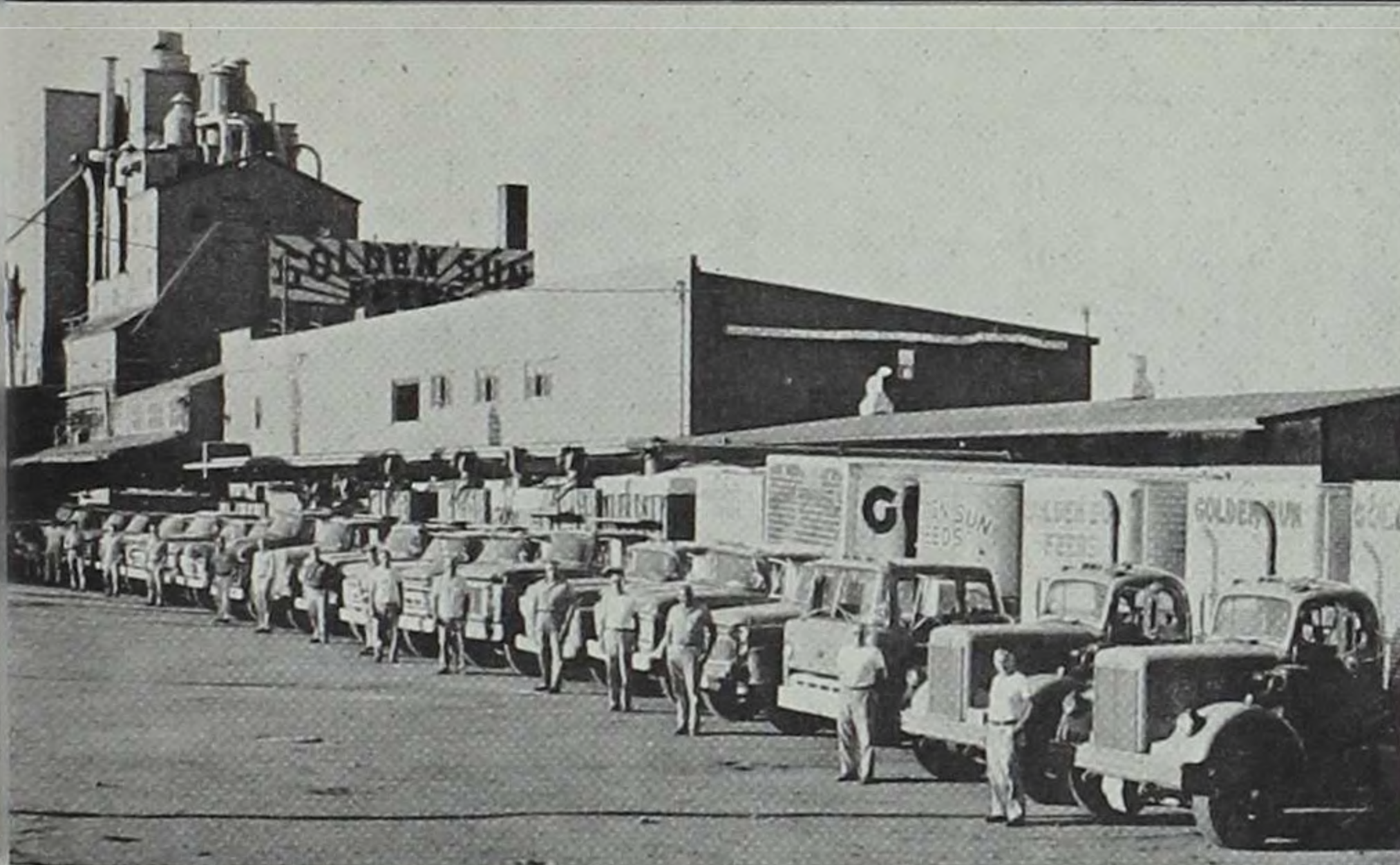
GEO. A. HORMEL & CO.: Austin, Minn.

The Fort Dodge plant of the Tobin Packing Company was purchased by Hormel in 1953. Occupying some 12½ acres of land, the plant employs 1,000 workers and has a payroll of \$7⅓ million annually. In addition to the Fort Dodge operation, Hormel has an agreement for custom slaughter of hogs with the I. D. Packing Company of Des Moines. Hormel was the first packer to produce canned ham; first with a 12-oz. luncheon meat called SPAM; first packer (and only one to date) to have a guaranteed annual wage plan; the first to develop and use humane slaughter; and is famous for its dry sausage line of meats. The number of Hormel products now totals 750.



O. L. MARQUESSEN
Plant manager





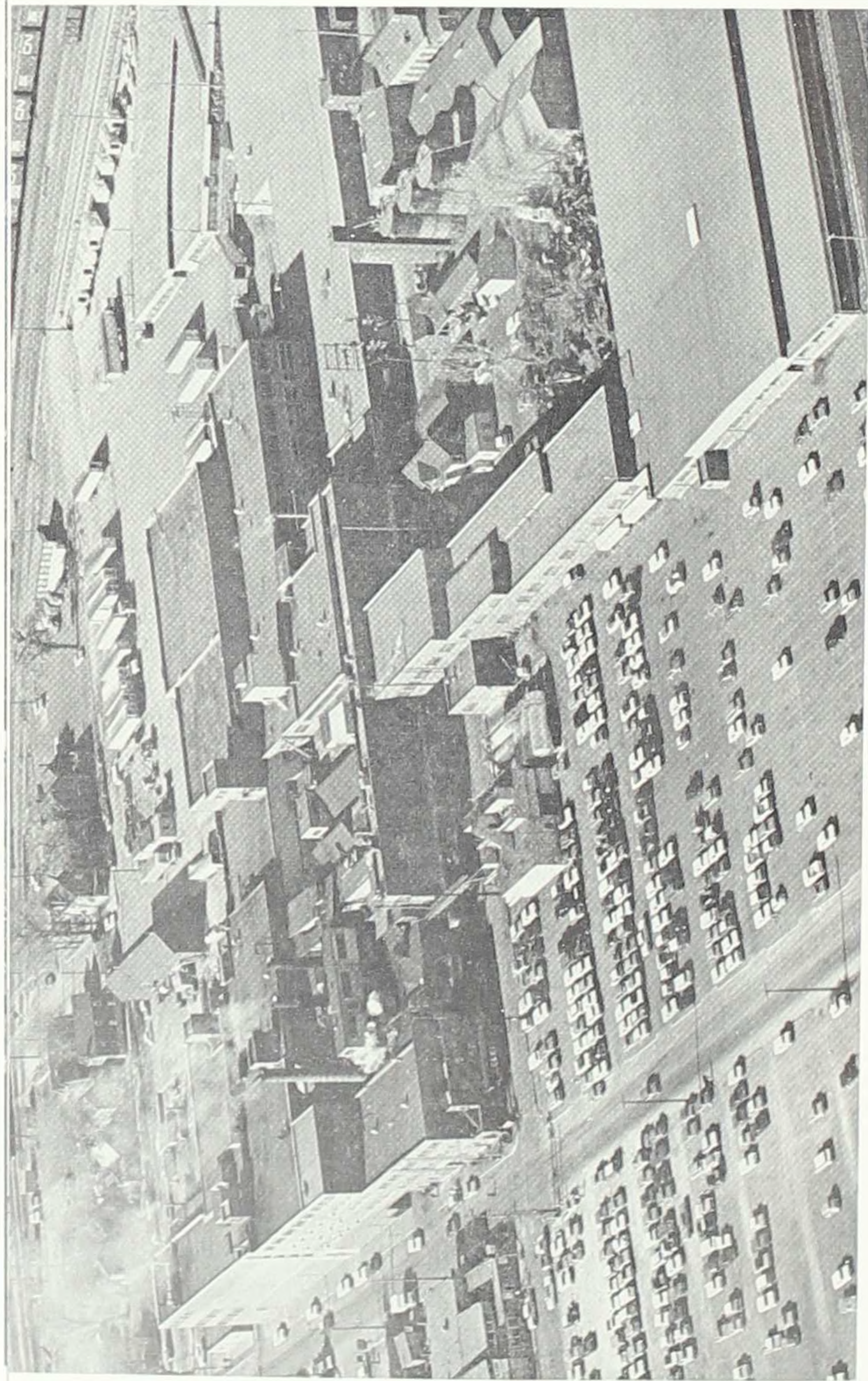
Golden Sun plant, Estherville

JOHN MORRELL & CO.: Chicago

Founded in England in 1827, Morrell began operations in Ottumwa in 1877. Today, in addition to the Ottumwa beef and pork slaughtering and processing plant, Morrell operates pork and beef slaughtering facilities in Estherville. In diversifying its operations, the company acquired Golden Sun Feeds of Estherville and Foxbilt, Inc., of Des Moines. Operating as the Golden Sun Feeds Division, these plants produce a full line of animal and poultry feeds. Some 3,500 workers are employed in Morrell's Iowa plants with annual wages in excess of \$23 million. The company's plant at Sioux Falls, S. D., also contributes to Iowa's economy through the purchase and sale of livestock and meat food products and by the employment of Iowa residents.

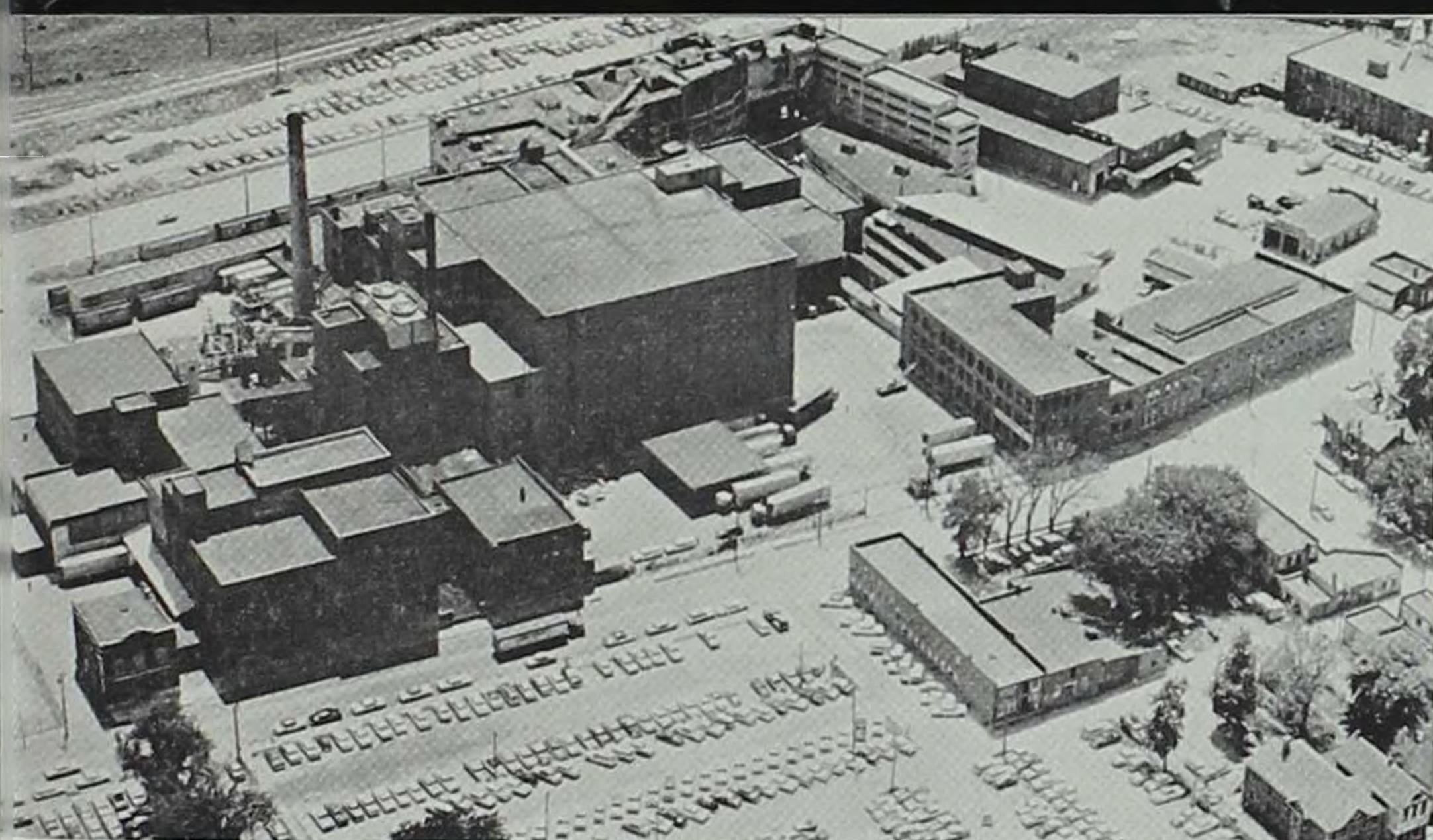
Morrell plant in Ottumwa





DUBUQUE PACKING COMPANY: Dubuque

In the November, 1964, issue of *The Palimpsest*, William J. Petersen wrote as follows about Dubuque — the Key City of Iowa: "Since 1940, the population of Dubuque has soared upward approximately 6,000 each decade, an increase that can be attributed to the advent of the Dubuque Packing Company and the John Deere Company." In the 27 years since 1940 Dubuque Packing and its 3,000 employees have continued to make a significant contribution to the economy of the Key City of Iowa as its second largest industry.



OSCAR MAYER & CO.: Madison, Wis.

In 1946 Oscar Mayer & Co. acquired the Kohrs Packing Company plant in Davenport. Starting in 1883 as a small Chicago neighborhood meat market, Oscar Mayer & Co. today is known for the sausage making skills and traditions of its founders. It ranks eighth in dollar sales among more than 3,000 United States meat processing companies. Iowa's Davenport (above) and Perry (below) plants have helped in achieving that ranking. The Davenport plant has 1,582 employees who receive \$11,211,000 in annual wages. It has pork cutting facilities and processes meat. The Perry plant was acquired from the Iowa Pork Company in October of 1965. In its first six months of operation under the Mayer banner wages of \$2,593,000 were paid to some 500 employees. Mayer also shares half interest with Dow Chemical Company in Davenport's The Kartridg Pak Co., which manufactures specialized processing and packaging equipment for the food industry.



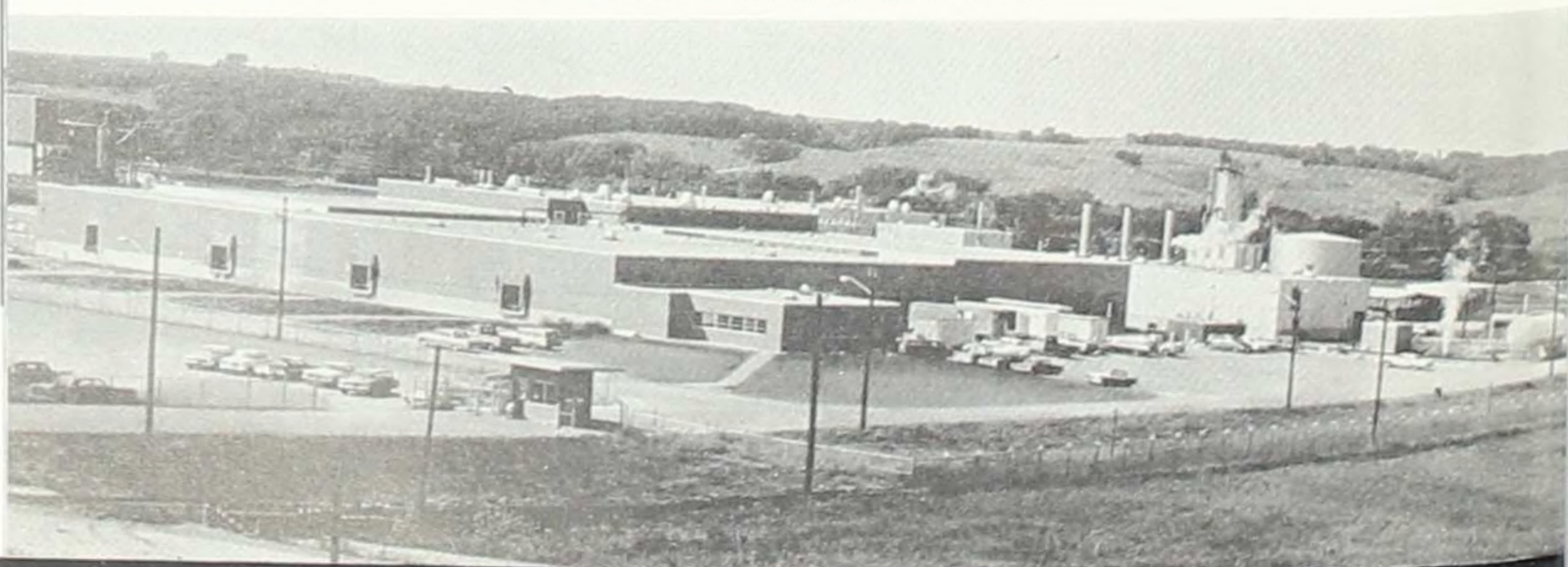


This is Wilson's largest plant — Cedar Rapids

WILSON & CO., INC.: Chicago

After visiting Cedar Rapids in 1870 David Blakely advised his friend, T. M. Sinclair, a New York meat packer, that the Iowa town would be an excellent location for a pork packing plant. Sinclair agreed and in 1871 established the firm of T. M. Sinclair and Company, quickly becoming Cedar Rapids' leading industry. The firm affiliated with Wilson & Co. in 1913 and complete control was assumed by the latter in 1930. Wilson, third largest domestic meat producer, also operates plants at Cherokee and Eagle Grove. Over 3,600 employees receive annual wages in excess of \$20 million. Meat and meat products represent the company's production in Iowa. Currently a new freezer building and animal and poultry feed facility are being constructed in Cedar Rapids along with a new curing addition at Cherokee.

The Wilson & Co. plant in Cherokee



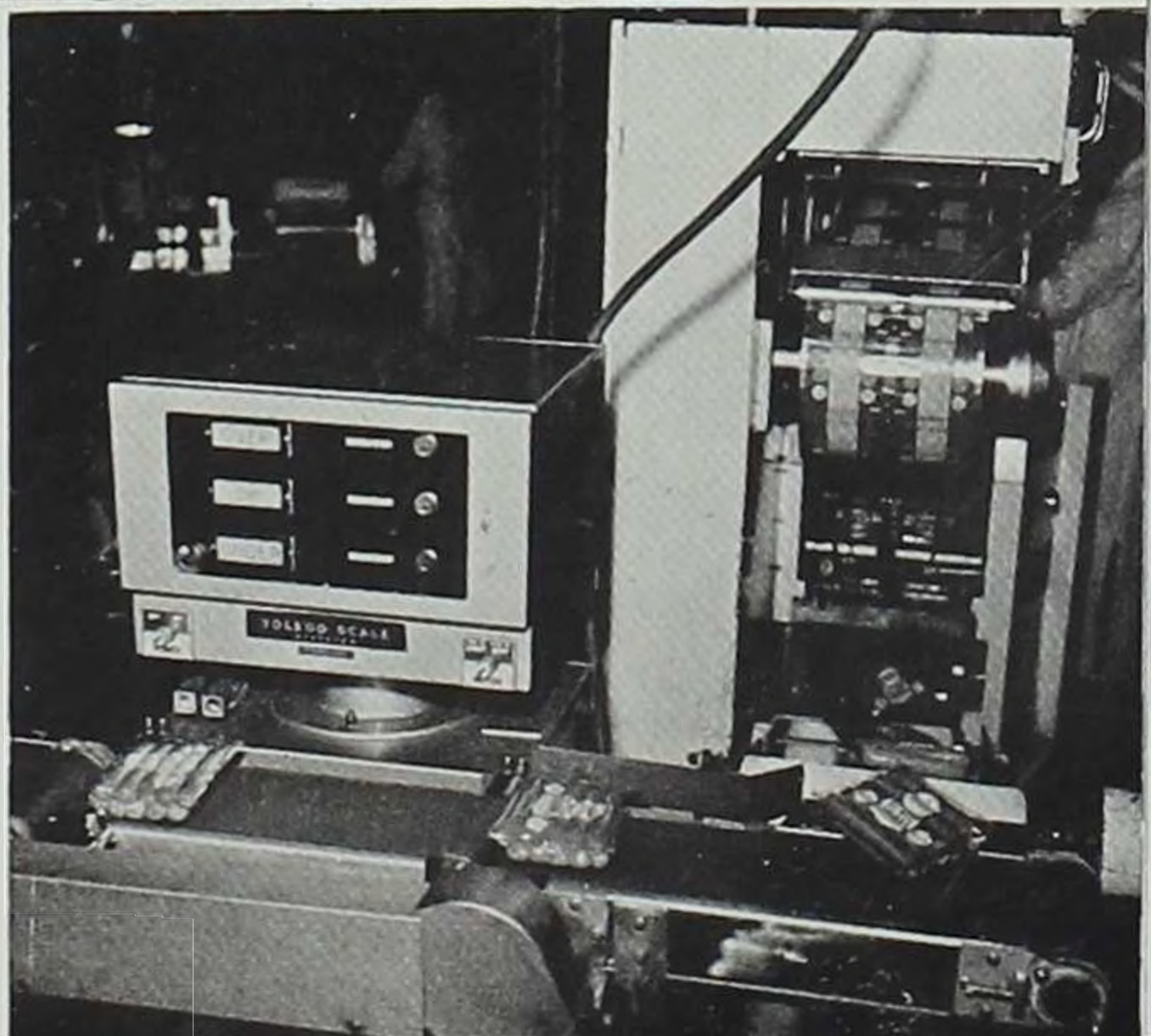


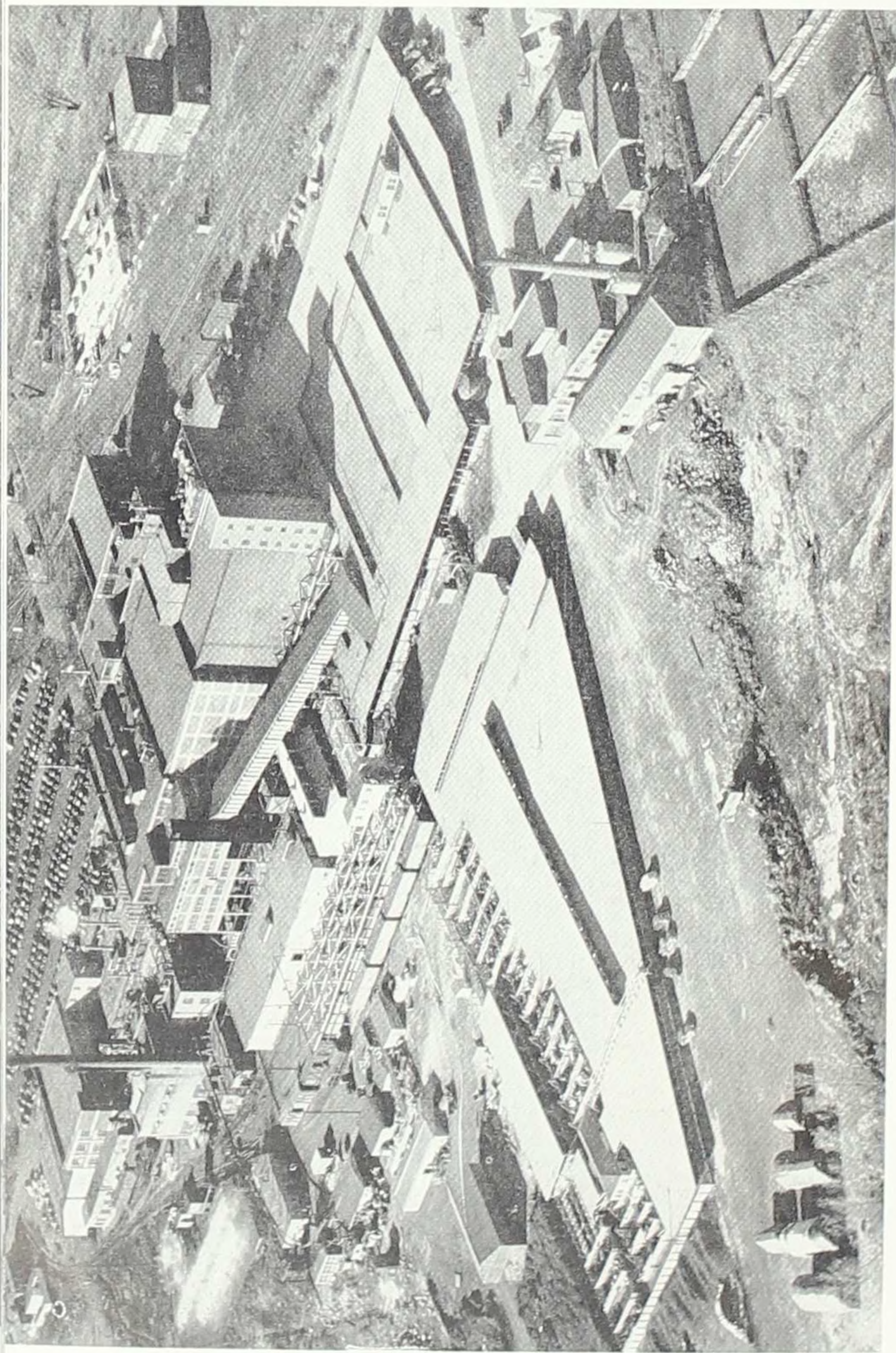
Automatic frankfurter loader in the Cedar Rapids plant collates and aligns 45,000 franks an hour, groups them into the correct number of franks per package, and delivers them to the vacuum packaging machine.

Another view of the loading machine . . .



As vacuum packaged franks move over the automatic scale as they leave the line.





SWIFT & COMPANY: Chicago

The world's largest processor of meats, Swift operates plants at Atlantic, Cedar Rapids, Clinton, Des Moines (pictured above), Keokuk, Marshalltown, Mason City, and Sioux City. These units employ approximately 2,400 workers with an over-all annual salary of some \$16,500,000. Well diversified, Swift produces a full line of meat products, dairy and poultry products, soybean oil and meal, agricultural chemicals, lawn and garden feeds, livestock feeds, adhesives, leather, wool, and other products.



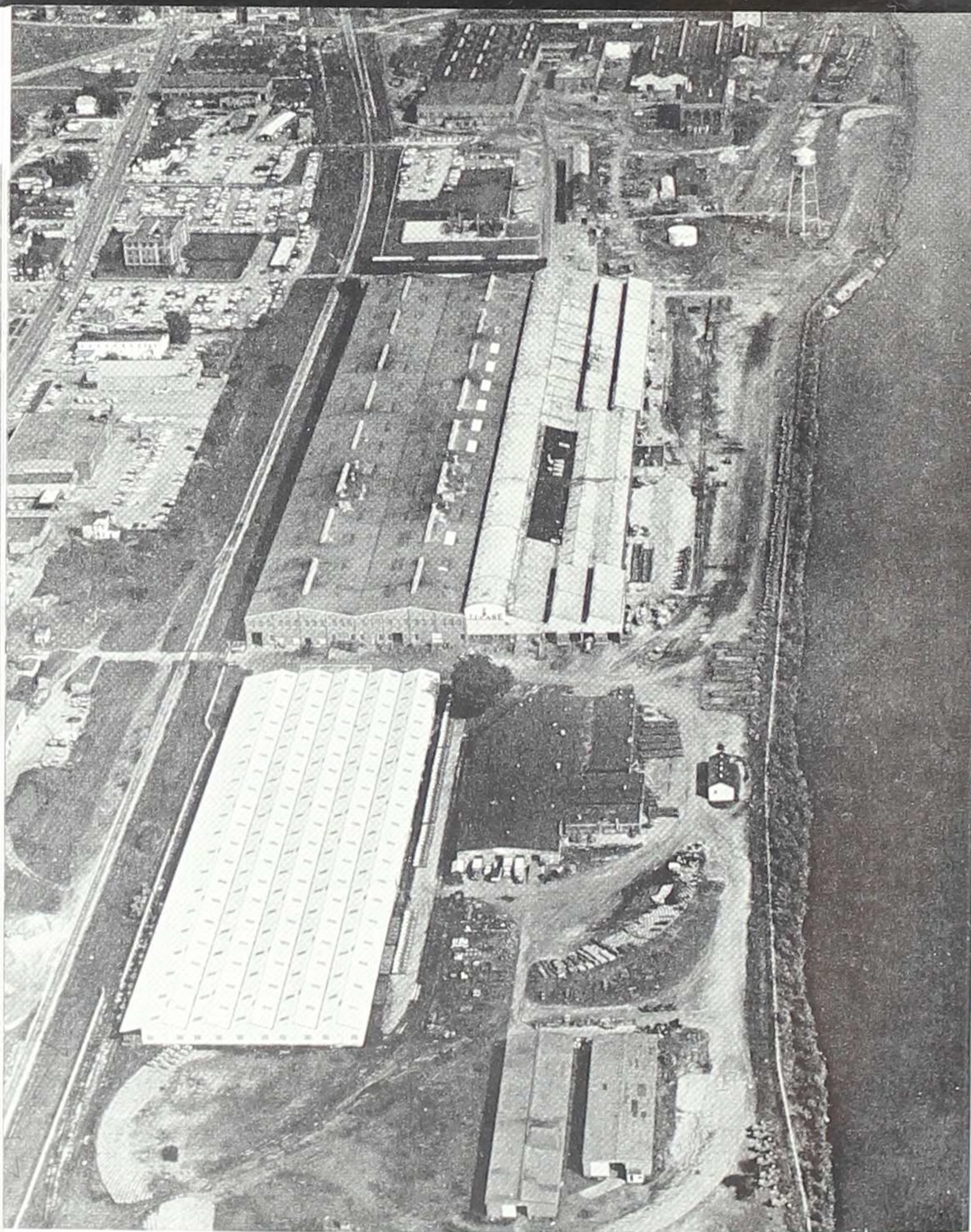
111

"Ye Olde Rath Woodpile" provided the famous hickory smoke

THE RATH PACKING COMPANY: Waterloo

Two cousins, E. F. and John W. Rath, founded the company in 1891. Starting with an investment of \$25,000, a work force of 18, and a business of \$101,000, the firm has grown until it now employs 4,282 persons with an annual payroll of \$35 million. A Rath paycheck goes into one out of every seven homes in the Waterloo-Cedar Falls area. Some \$136 million was paid to Iowa farmers in 1965. Weekly 300 rail cars and trucks leave with quality Rath meat products for all parts of the nation. The plant is amazingly self-sufficient, generating 70% of the electrical needs for the 150 buildings comprising the complex. Over 12 million gallons of water are pumped each day from company wells. The equivalent of 225 tons of coal is used each day and up to 5,000 tons of refrigeration are produced in the same period.



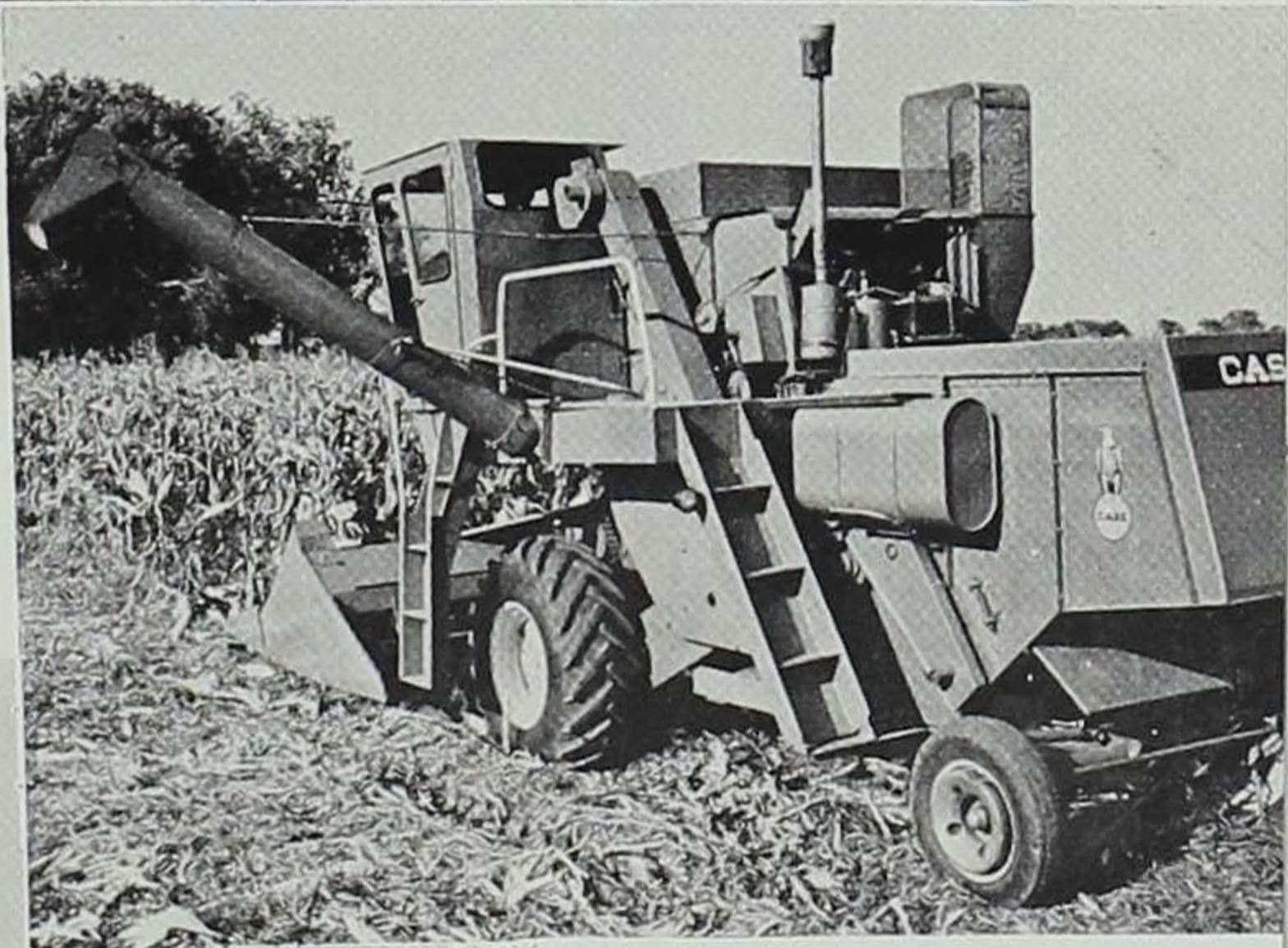


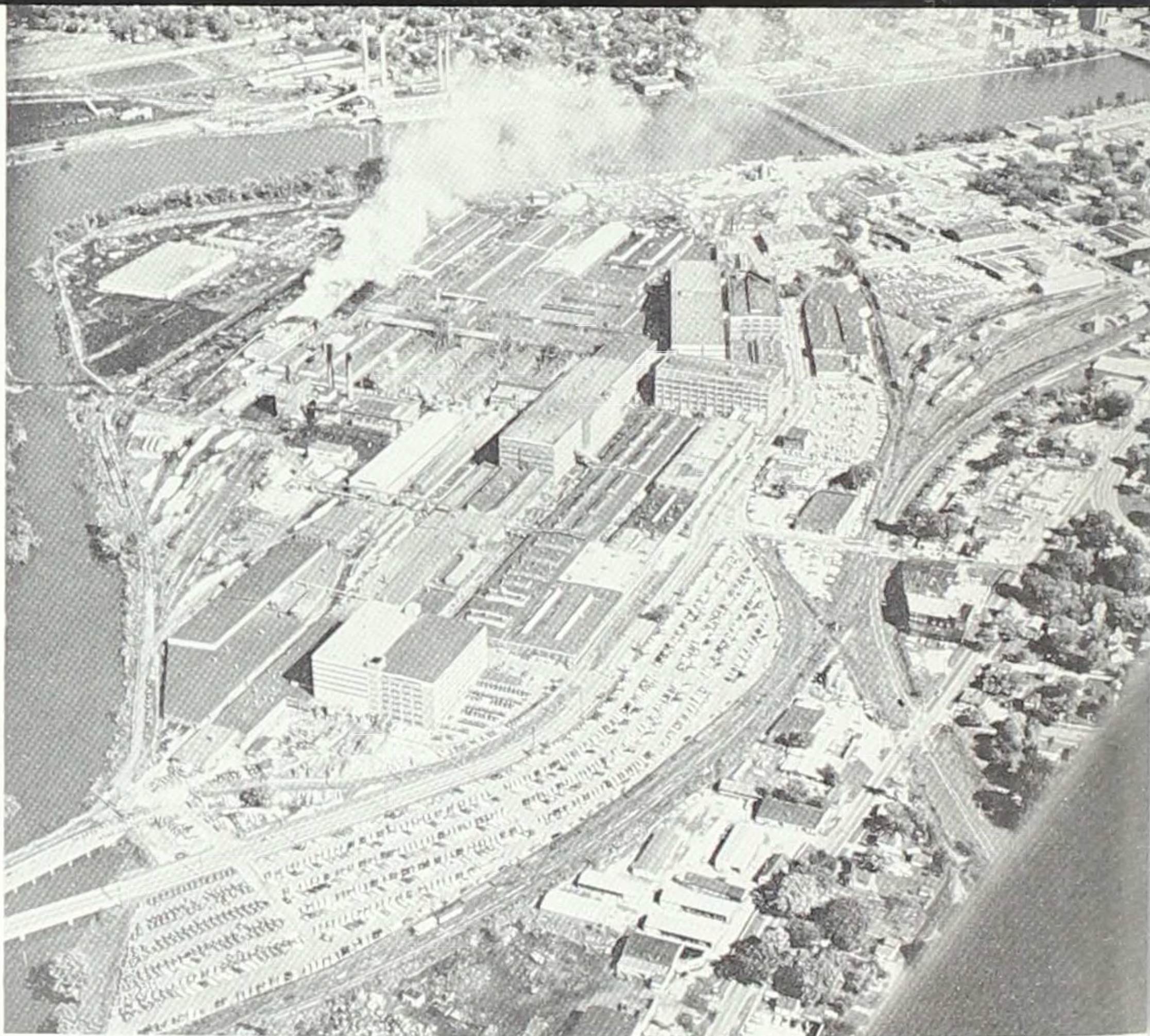
J. I. CASE COMPANY: Racine, Wis.

J. I. Case, one of the country's largest farm equipment manufacturers, entered the Iowa industrial picture in 1937 when the Showers Bros. Furniture Manufacturing Company of Burlington was purchased. Here are produced crawler and rubber-tired tractors, fork lifts, loaders, dozers, backhoes, and related construction equipment. In 1966 the plant employed nearly 1,300 workers. Case's other Iowa unit, a former ordnance plant at Bettendorf (pictured above), was acquired in 1946. Its 1,500 employees now produce several types of hay machines, forage harvesters, rice, grain, corn, and bean combines.



Case's Burlington plant is pictured above. At right and below are a combine and backhoe, typical Case products on the job.





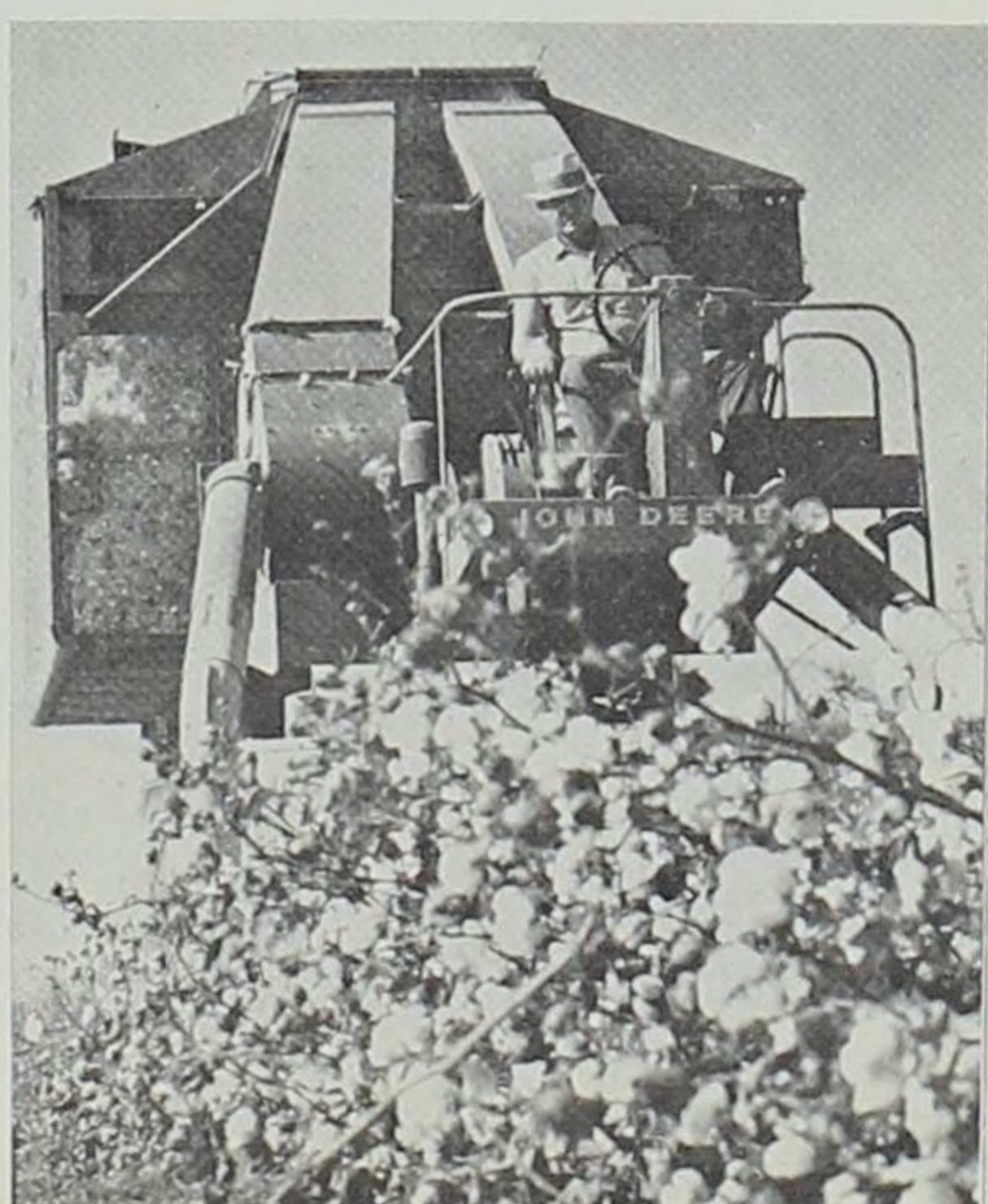
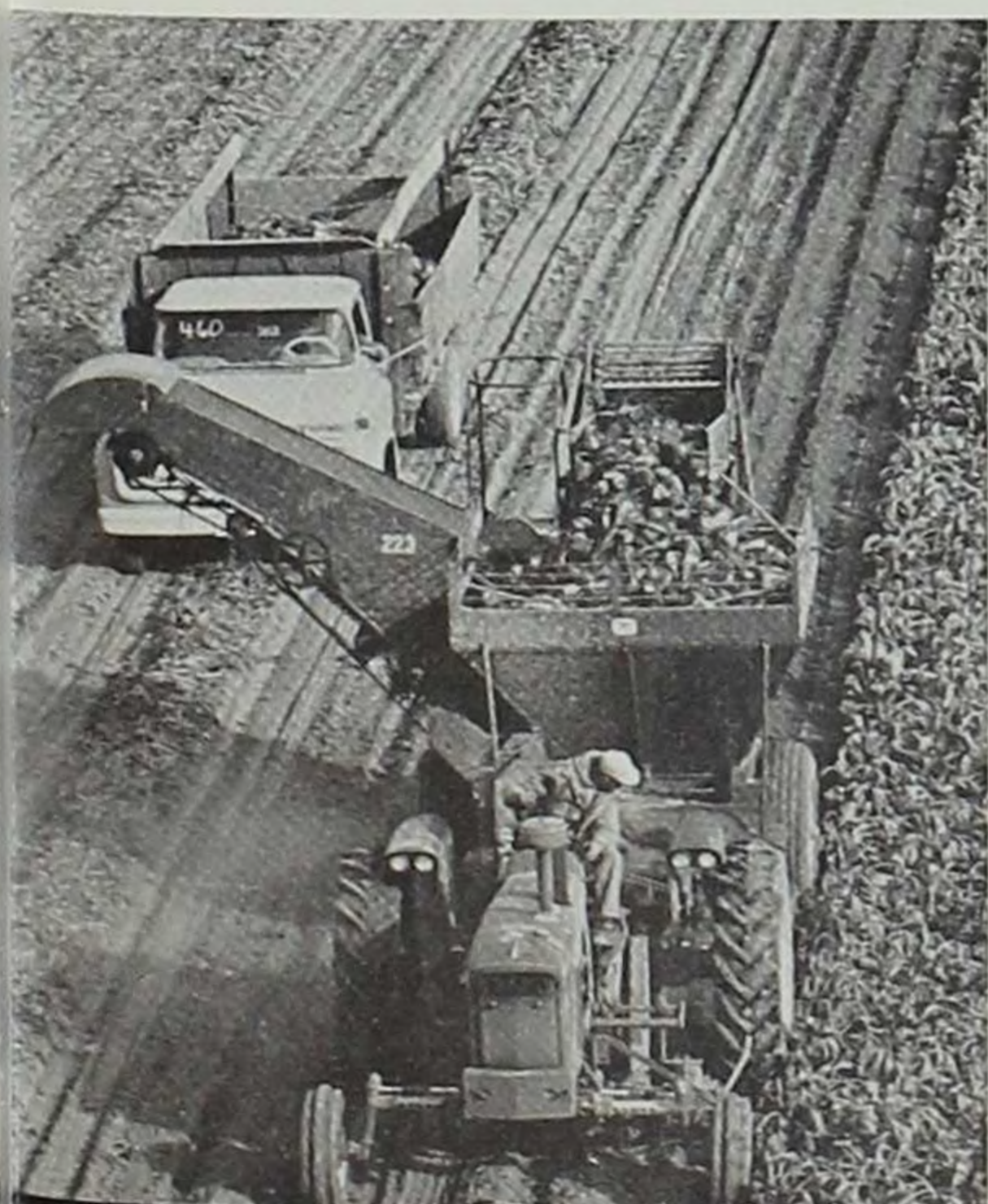
DEERE & COMPANY: Moline

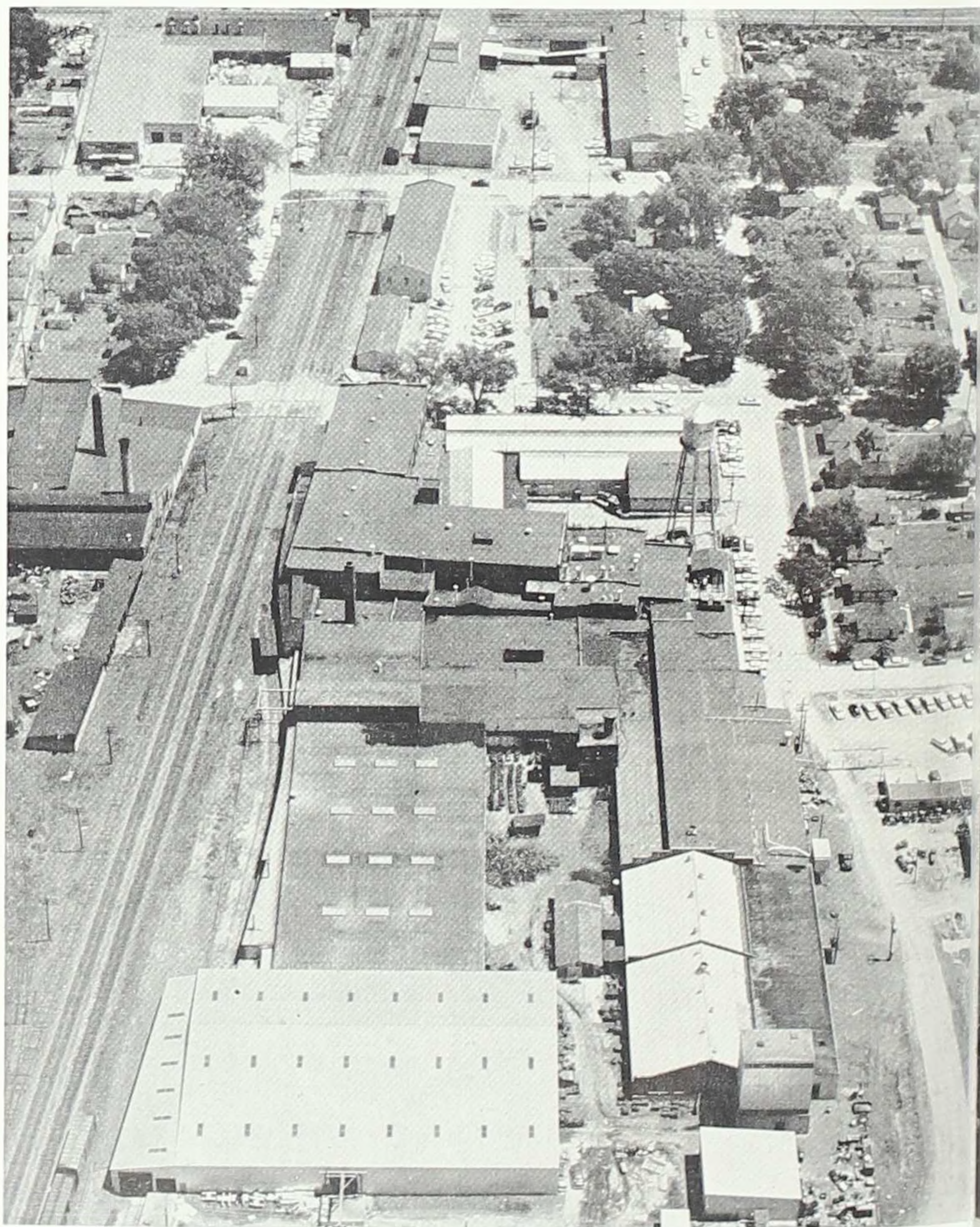
Deere, manufacturer of a line of 510 separate products, has four of its 14 plants in Iowa and with 18,000 employees is the state's biggest industrial employer. The largest facility is the John Deere Waterloo Tractor Works. Originally the Waterloo Gasoline Engine Plant, it was purchased by Deere in 1918. Some 9,500 workers produce tractors here. In 1947 the new John Deere Dubuque Works began producing a line of small tractors. This plant now has 4,700 employees. Oldest Deere plant in Iowa is its Ottumwa Works (see front cover) which dates from 1900 when it was a part of the Dain Manufacturing Company. A line of hay tools is made by Ottumwa's 1,600 workers. In 1947 Deere got its fourth Iowa plant, the government-owned Des Moines ordnance plant whose 2,200 workers produce harvesting and cultivating equipment.





Deere plants at Waterloo (top, left), Des Moines (bottom, left), and Dubuque (above) join with the Ottumwa plant in producing more than 510 products. Three such are pictured: (right) a hay cuber made at Ottumwa; and below, a beet harvester (left) and a cotton picker made at the Des Moines plant.





FORD MOTOR COMPANY: Detroit

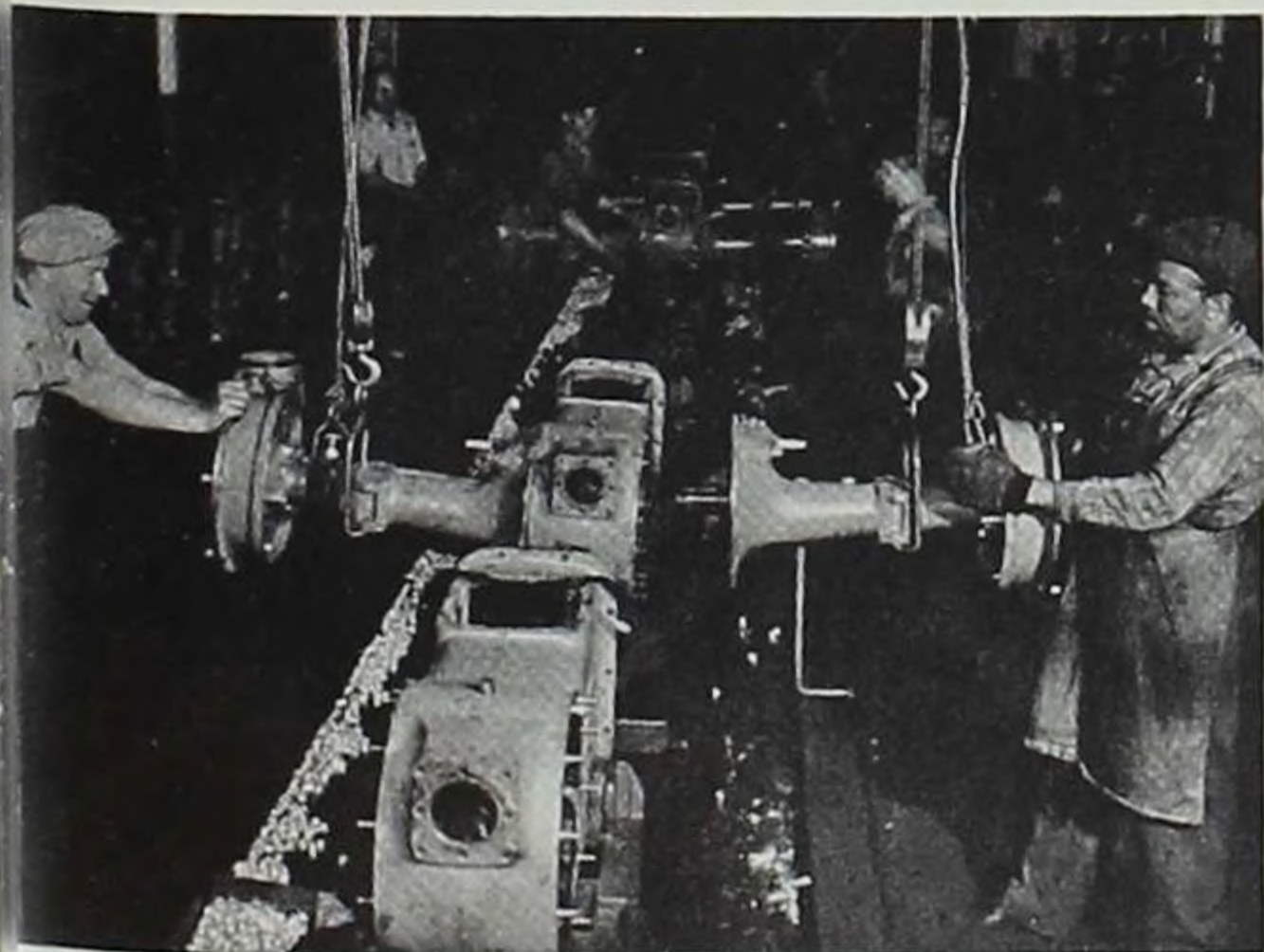
Ford Motor Company observed its 50th year as an industrial citizen of Iowa in 1966. The late Henry Ford had visited the state in 1916 and decided that Des Moines should be the hub for Ford operations in this vast, rich farm area. In that year Iowa ranked sixth in the number of cars registered — a total of 146,000 —

(Continued on opposite page)

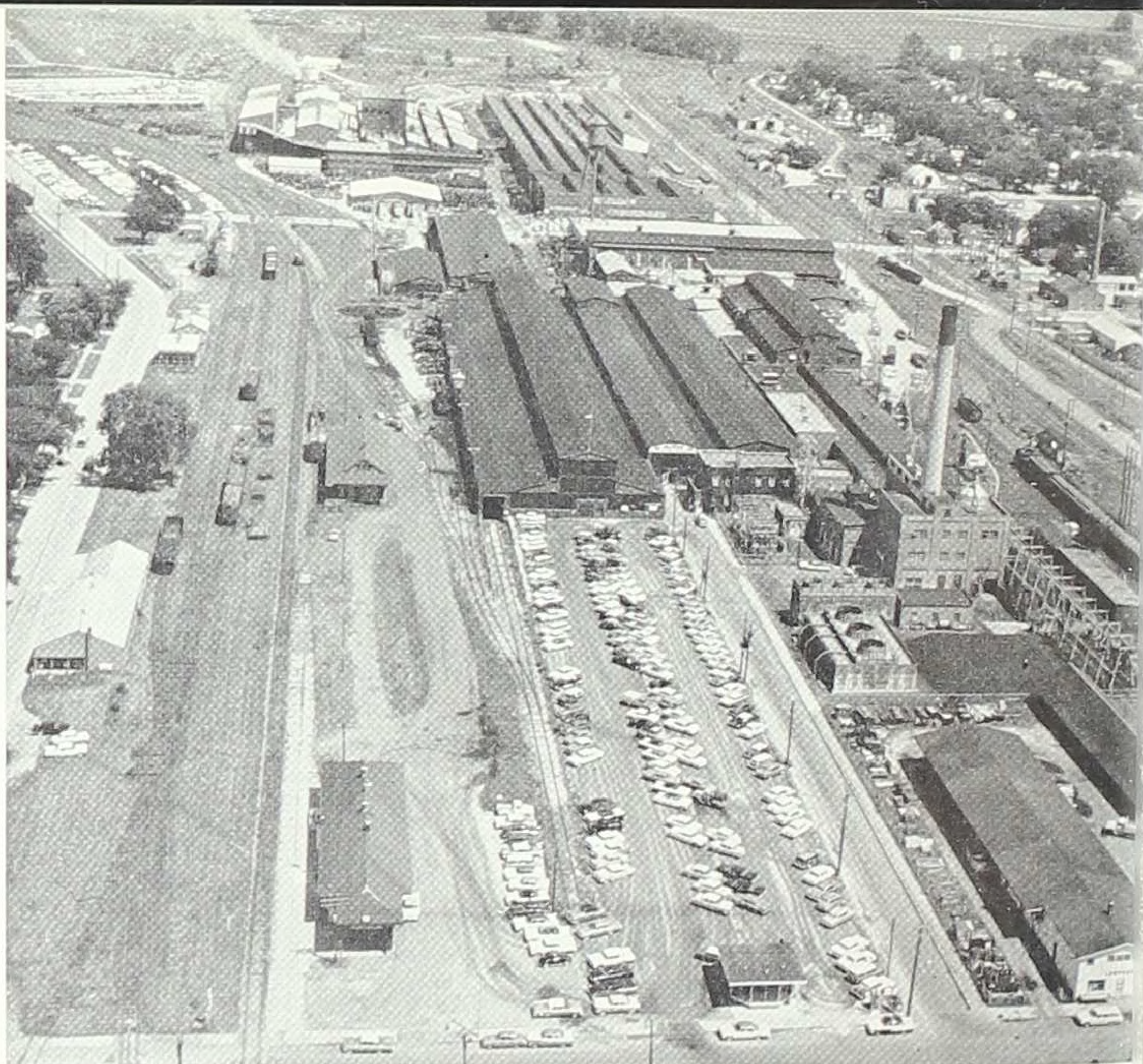


(Continued from opposite page)

and led all states in the number of autos per capita, one for every 15 persons. Operations began in August, 1916 in a leased building. Then followed the acquisition of the Harbach property. From that start Ford grew until today it operates four facilities in Des Moines, the Des Moines Implement Plant, Des Moines Parts Depot, Des Moines District Sales Office, and Ford Motor Credit Co.; Philco-Ford Corp. in Fairfield; and a district sales office in Davenport. The Iowa units employ some 1,200 persons who channel annual wages of more than \$8½ million into the state's economy. Des Moines Implement produces industrial and farm loaders and buckets, corn pickers, forage harvesters, and hay rakes. Philco-Ford produces wringer washers and assemblies for automatic and commercial dryers.



(Left) The Philco-Ford plant at Fairfield. (Top) Des Moines Implement plant, Des Moines. (Bottom, left) Early day assembly line. (Right) Kent Jones does one of 140 operations necessary to build industrial and farm axles.



OLIVER CORPORATION: Chicago

In 1900 Charles Hart and Charles Parr began building internal combustion traction engines in Charles City. The first of these was completed in the winter of 1900-1901 and was bought by a Mason City farmer who proved it practical for farm use. In 1929 Hart-Parr merged with three other agricultural equipment manufacturers to form the Oliver Corporation. The Charles City plant, originally employing six men, now has 2,500 workers and a payroll of more than \$12 million annually. The plant produces agricultural and industrial wheel tractors.

IOWA INDUSTRIES: Others

I. Household implements	120
II. Electronic equipment	125
III. Publishing	132
IV. Rubber products	134
V. Miscellaneous industries	136



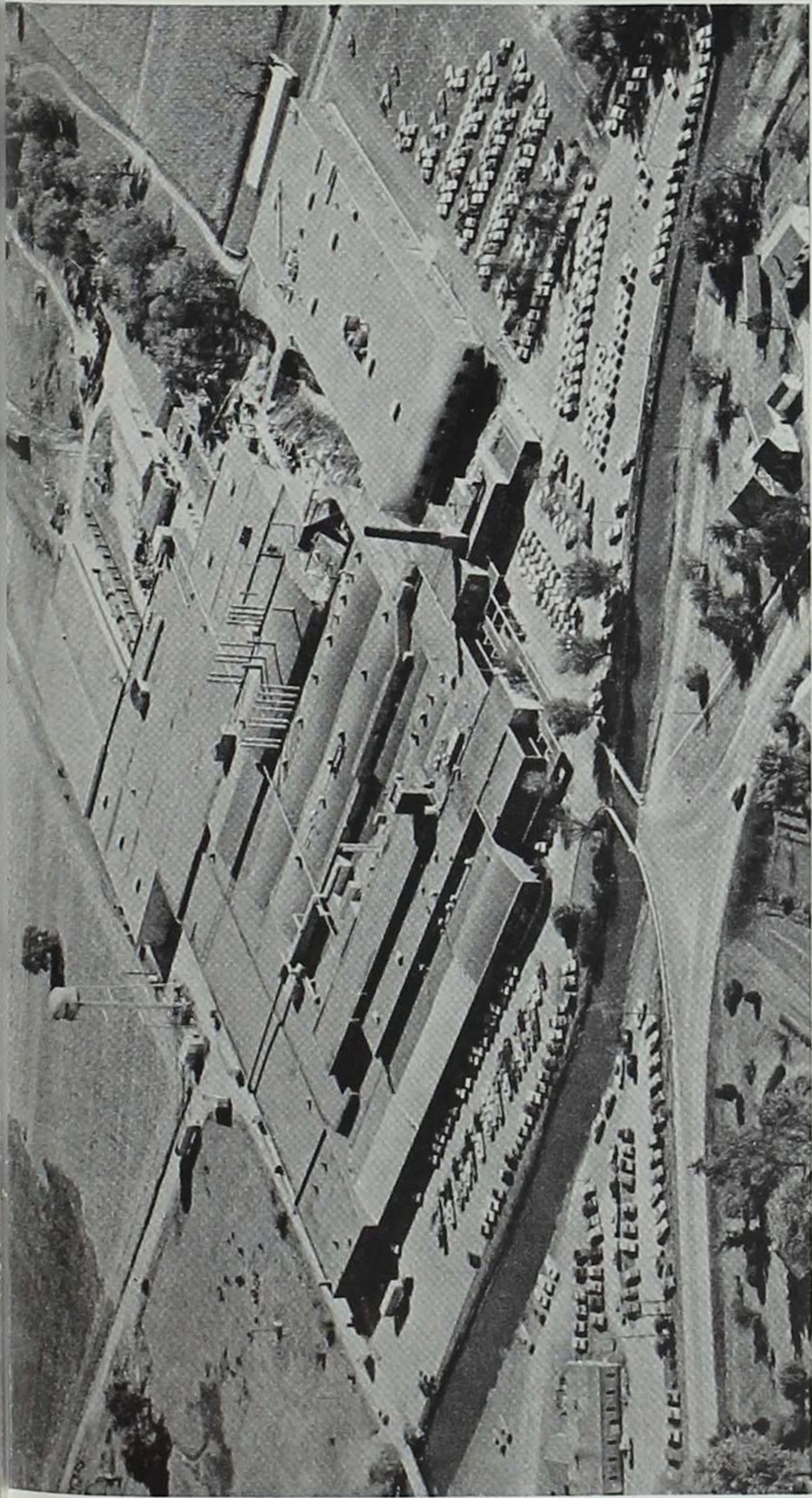
Tire's eye view of the Firestone plant, Des Moines



AMF WESTERN TOOL, INC.: Des Moines

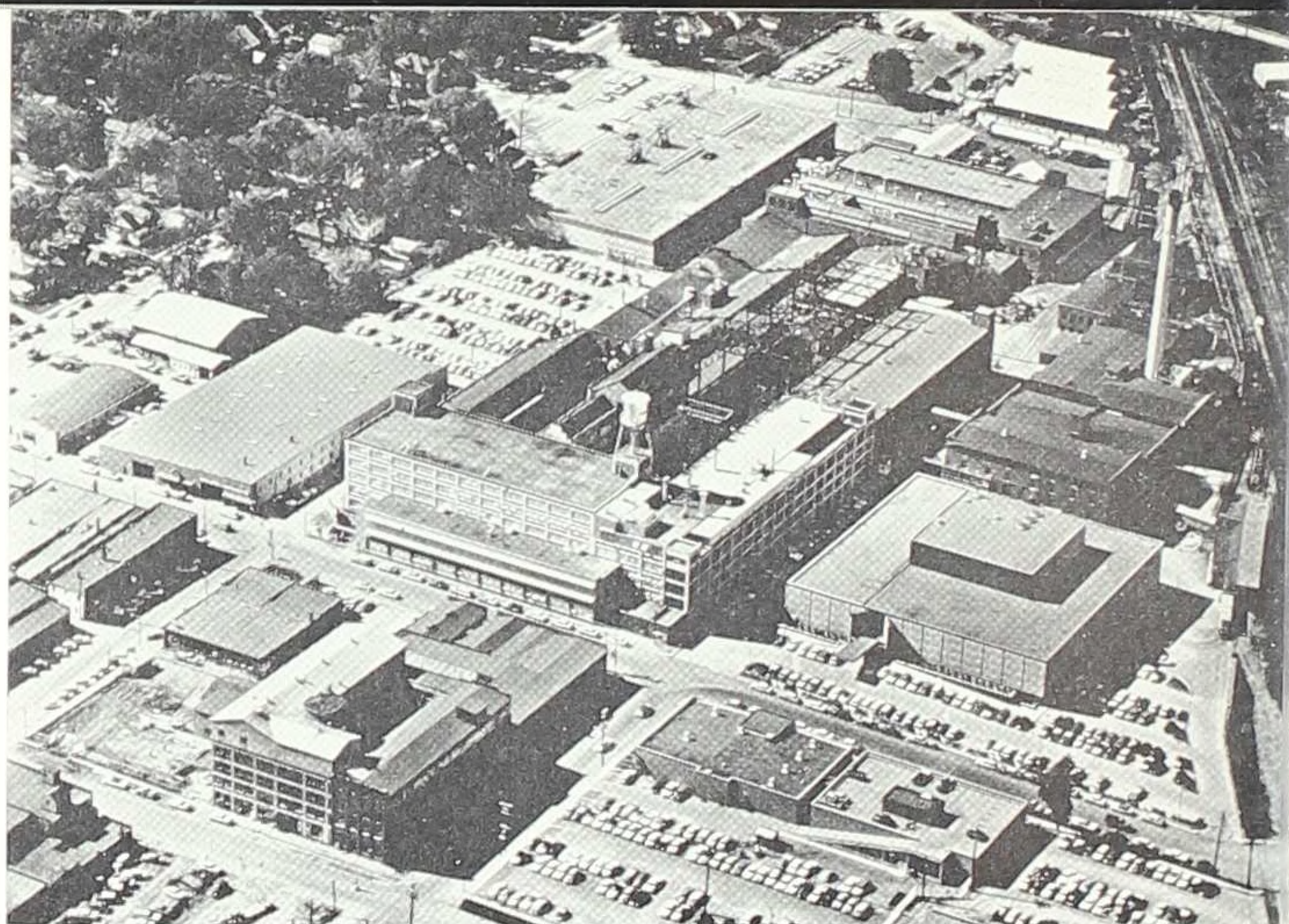
Founded in 1935 by E. W. Kolls and Ralph Torgersen, Western Tool & Stamping Co. was for over a decade a metal stamping and tool facility. In 1946 President Kolls decided the future lay in the manufacture of its own products. Entering the lawn mower field, Western Tool ultimately became a large producer of power lawn mowers, lawn sweepers, tillers, snow blowers, golf carts, and snowmobiles. It employs 1,000 workers with an annual payroll of \$4,700,000. Western Tool & Stamping Co. was acquired by American Machine & Foundry Company on June 27, 1963, and the name changed to AMF Western Tool, Inc.



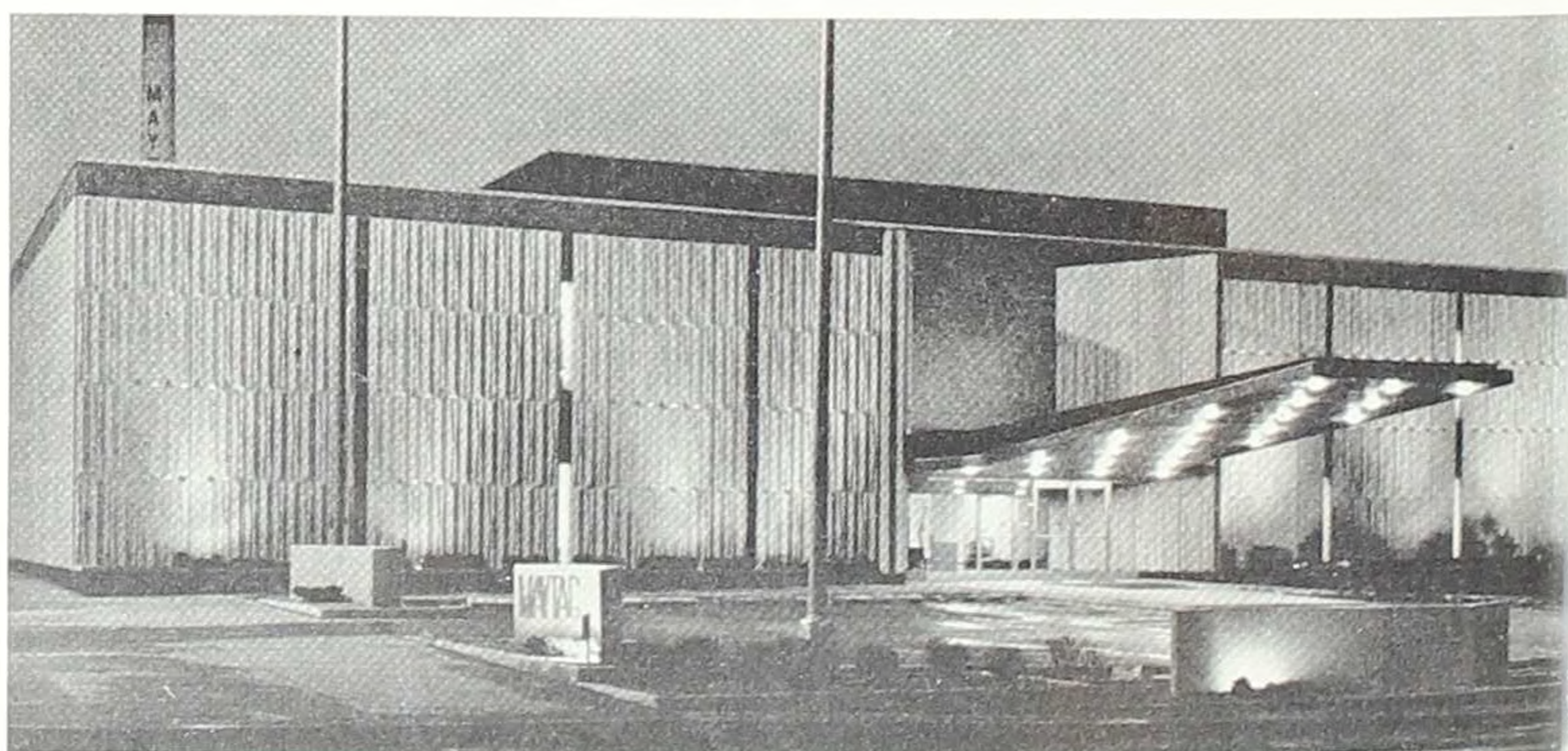


AMANA REFRIGERATION, INC.: Amana

In 1934 George Foerstner and two workers at Amana built and sold a beverage cooler. The Middle Amana Woolen Mill was taken over and the manufacture of meat cases and coolers began. In 1936 Foerstner sold out to the Amana Society but continued as plant manager. Amana soon became the country's largest builder of cold storage locker plants. In 1945 the company entered the home freezer market and was the first to produce upright freezer plants. By 1950 the plant had outstripped its backing and the Amana Society sold to private investors. The plant has been expanded considerably since that time and now manufactures freezers, refrigerators, room and central system air conditioners, dehumidifiers, and furnaces. Now employing over 1,500 workers, Amana Refrigeration, Inc., merged with the Raytheon Company of Lexington, Mass., in 1965 and operates as a wholly-owned subsidiary.

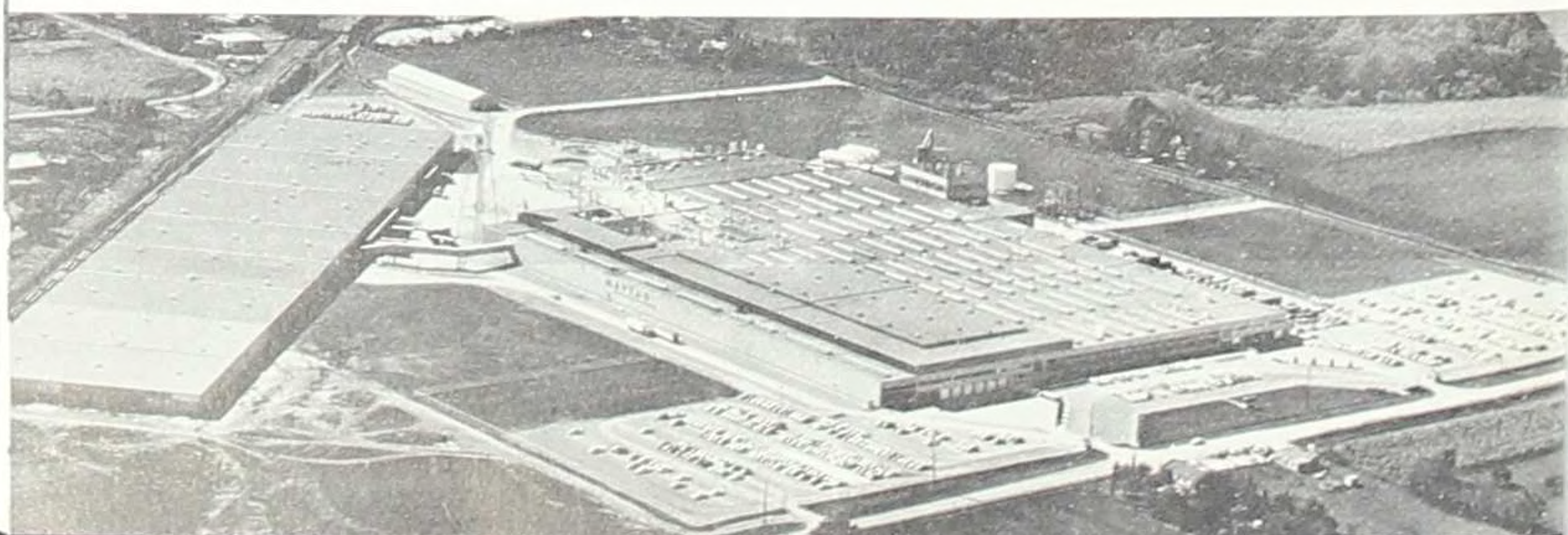


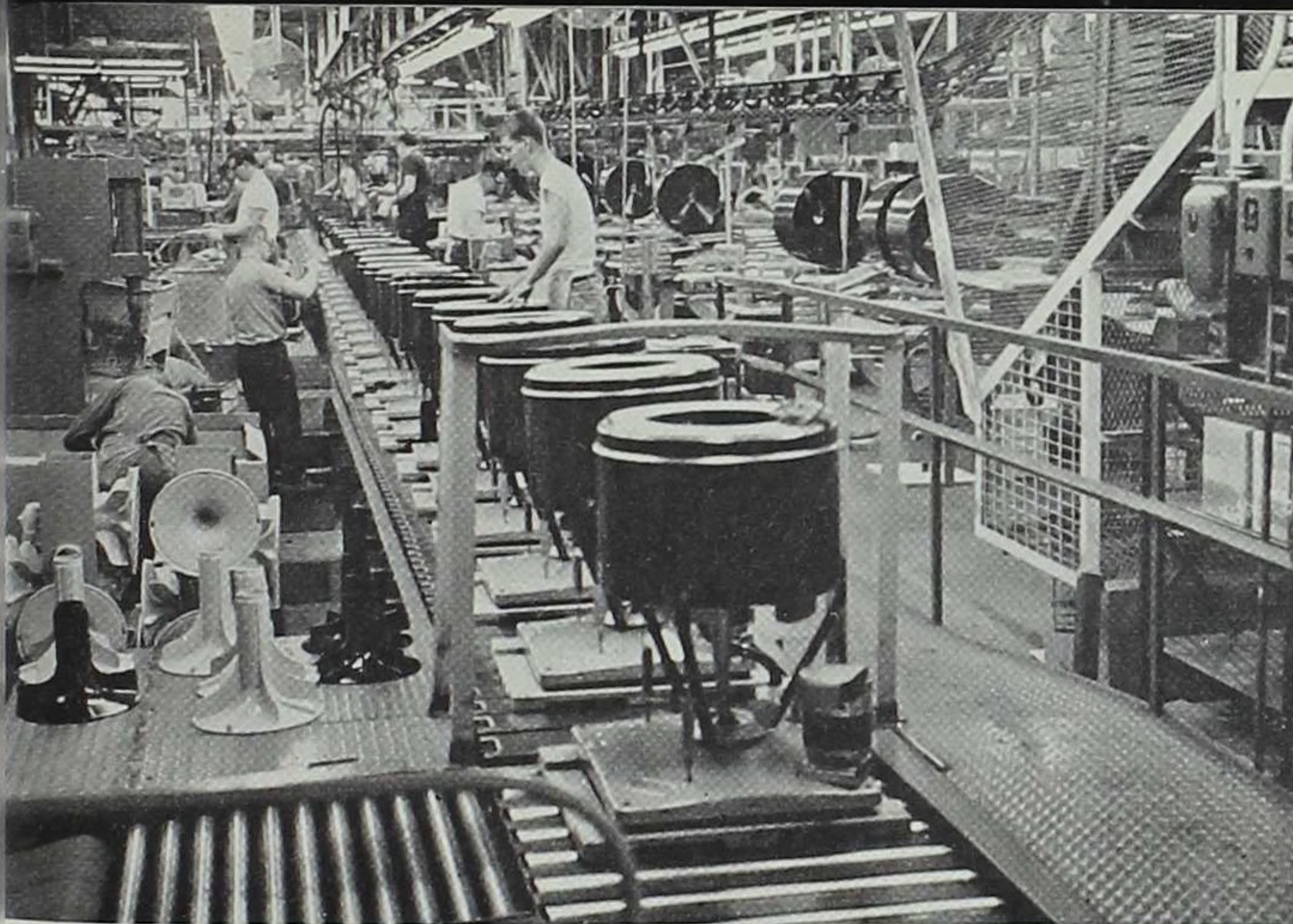
Maytag plant #1, Newton



Maytag plant #2, Newton

Maytag Headquarters Building



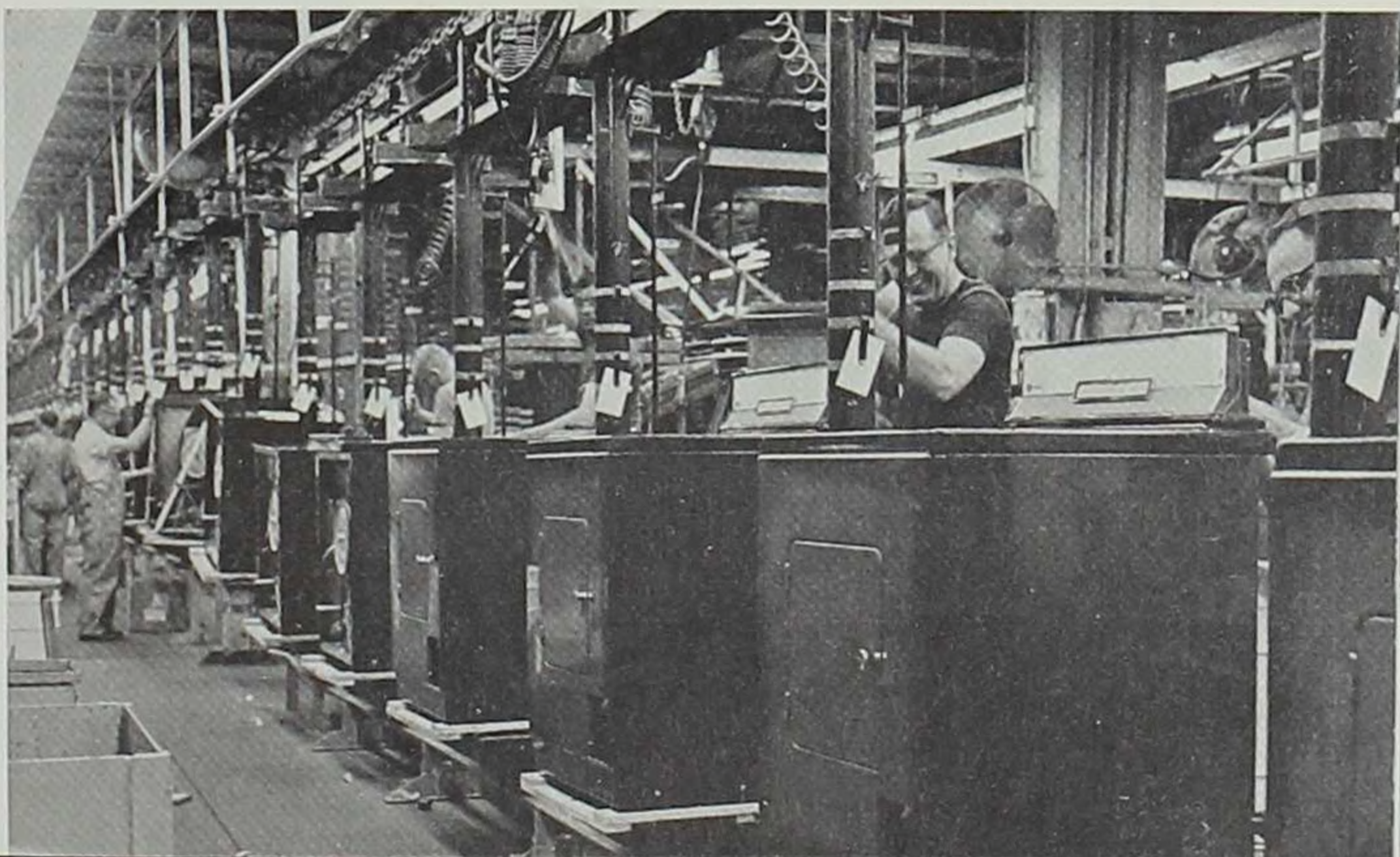


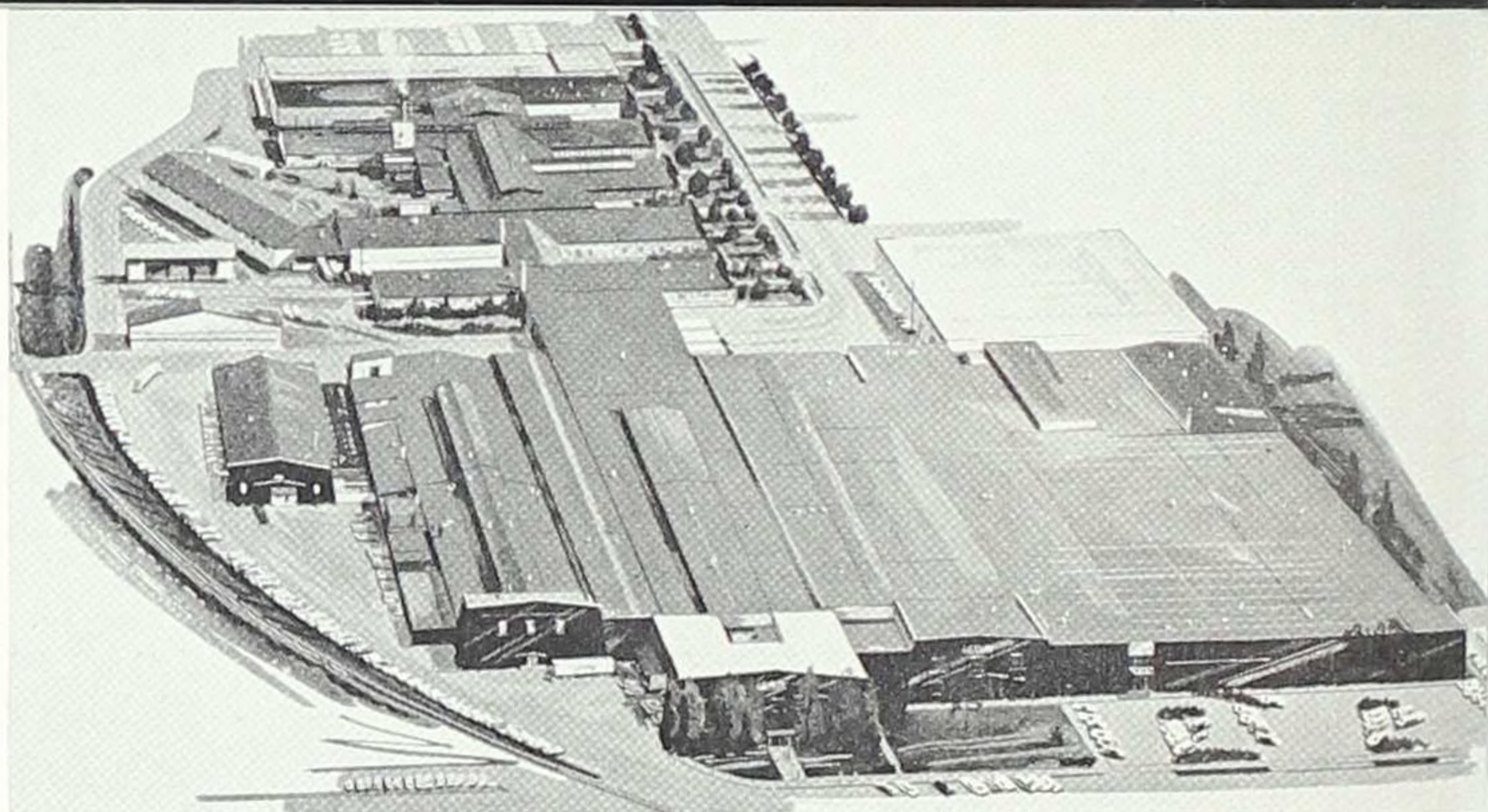
Automatic washer assembly line

THE MAYTAG COMPANY: Newton

In 1893 Fred L. Maytag, W. C. Bergman, A. H. Bergman, and G. W. Parsons formed the Parsons Band Cutter and Self Feeder Company. In 1907 the Newton firm entered the washing machine business and took its present name in 1909. The "Gyrafoam" principle was introduced in 1922 and two years later Maytag led the field in washer production. The six millionth wringer washer appeared in 1949 and in that same year a second plant, to produce automatic washers and dryers, was built in Newton. Maytag now manufactures a line of home laundry appliances, automatic washers and dryers for self-operated laundry installations, and a dishwasher now in limited distribution. In 1966 Maytag had 3,405 employees, an annual payroll of \$30,519,064, and net sales of \$120,769,510. There is a small Maytag plant at Hampton.

Clothes dryer assembly line





Lennox plant, Marshalltown

LENNOX INDUSTRIES INC.:
Marshalltown

The world's largest manufacturer of warm air heating systems came into existence during the 1890's in the Marshalltown machine shop of David Lennox. In 1904 Marshalltown newspaper publisher, D. W. Norris, purchased Lennox's furnace business and until his death in 1949 aggressively promoted the sales of furnaces to an ever-widening market. In 1917 the first of the existing Lennox plants was built in Marshalltown. In 1954 the Armstrong Furnace Company of Des Moines was purchased. The company now employs 1,200 workers in its Iowa plants. Known originally for its heating line, Lennox is now a major factor in the air conditioning field. John W. Norris is president of this family-owned business.



J. W. NORRIS

Lennox Research Laboratory, Marshalltown



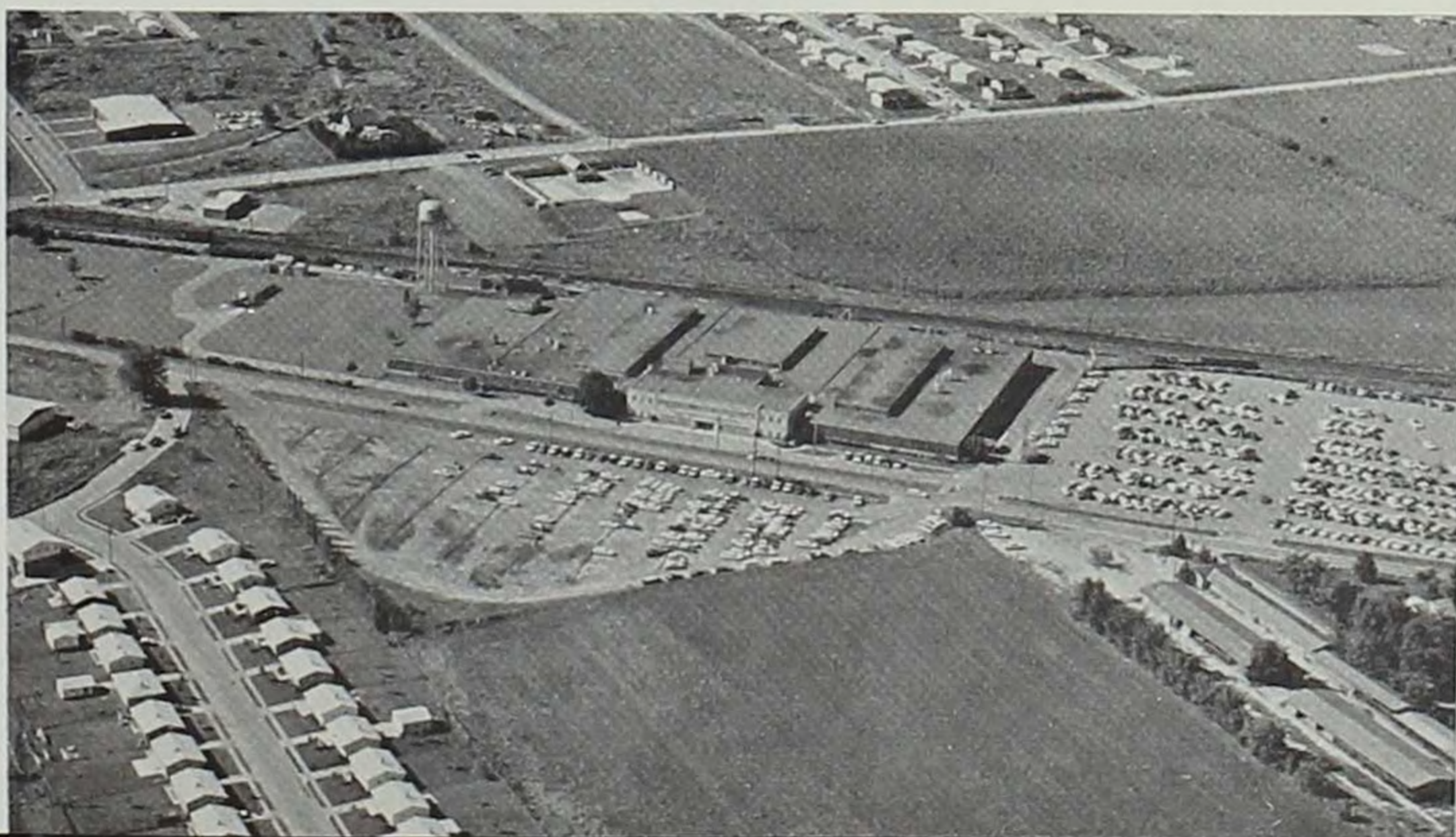


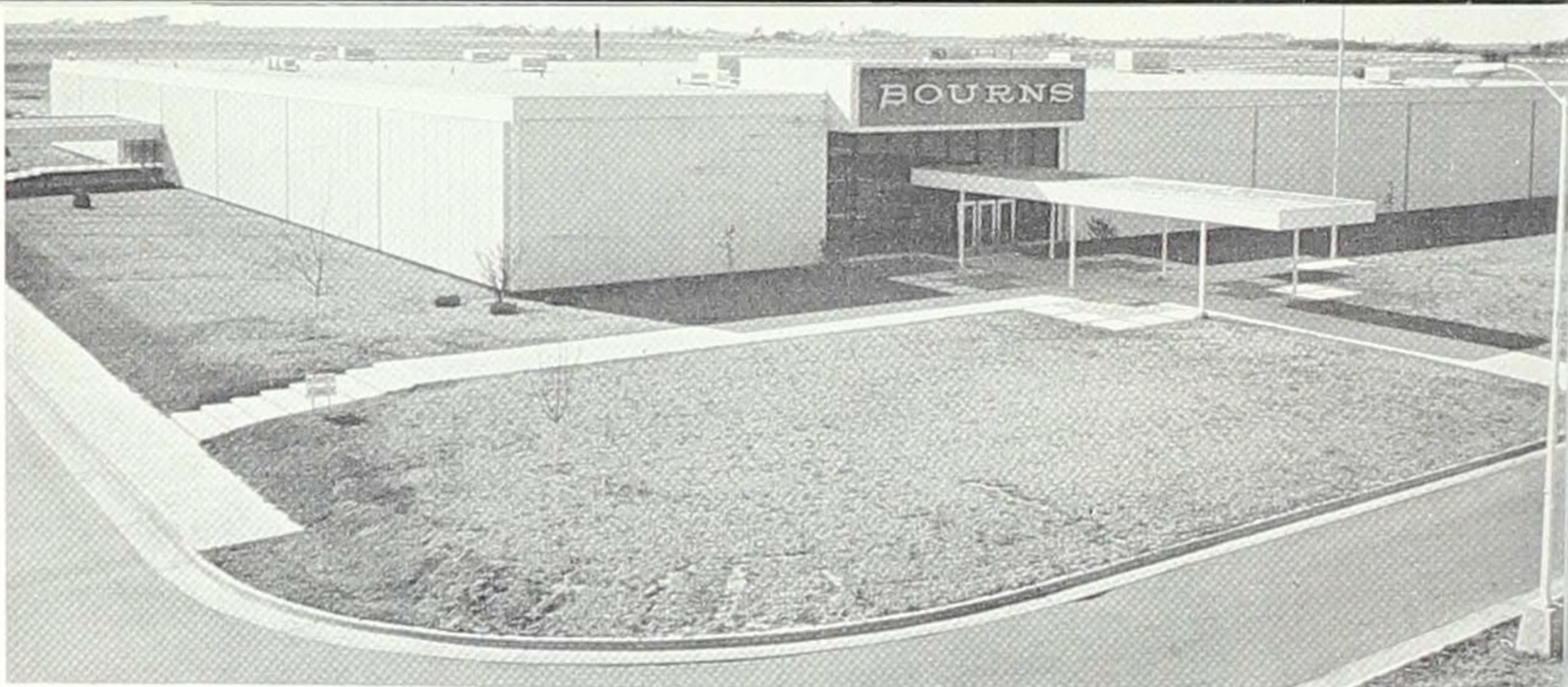
The Bendix Corporation office in Davenport

THE BENDIX CORPORATION: Detroit

The Instruments and Life Support Division, formerly the Pioneer-Central Division of Bendix, was established with the purchase in 1950 of the Victor Animatograph plant in Davenport. Starting with 1,000 employees, the division now has 1,300 persons working in two plants and receiving wages in excess of \$8 million annually. Chief products manufactured for the aerospace field are: flight instruments, propellant management and instrumentation systems, life support, survival, and pressurization systems, cryogenic storage and control systems, and intumescent forming products. Temperature compensated oscillators and sonic cleaning systems are made for the commercial field.

Hickory Grove Road facility as it appears today

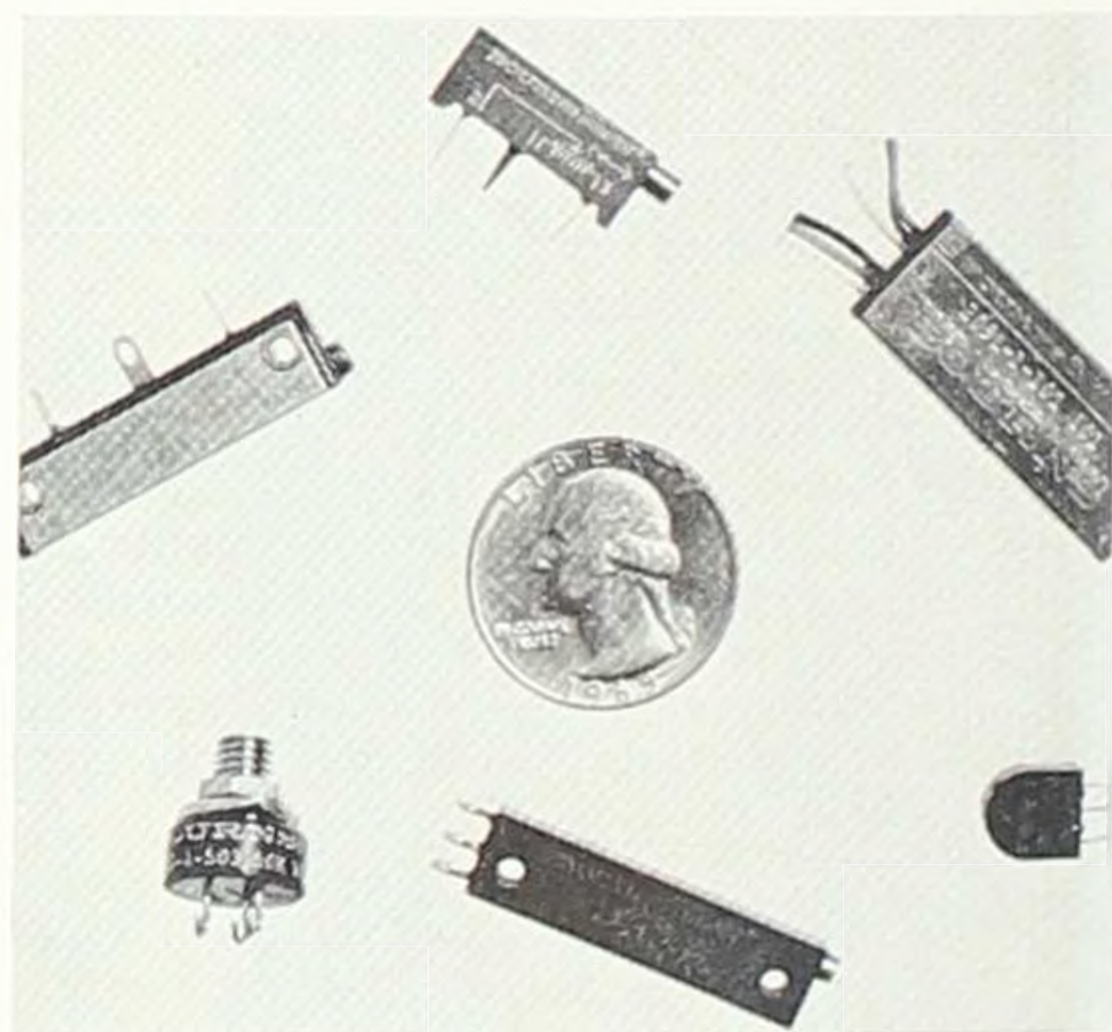




Bourns' Ames plant

BOURNS, INC.: Riverside, Calif.

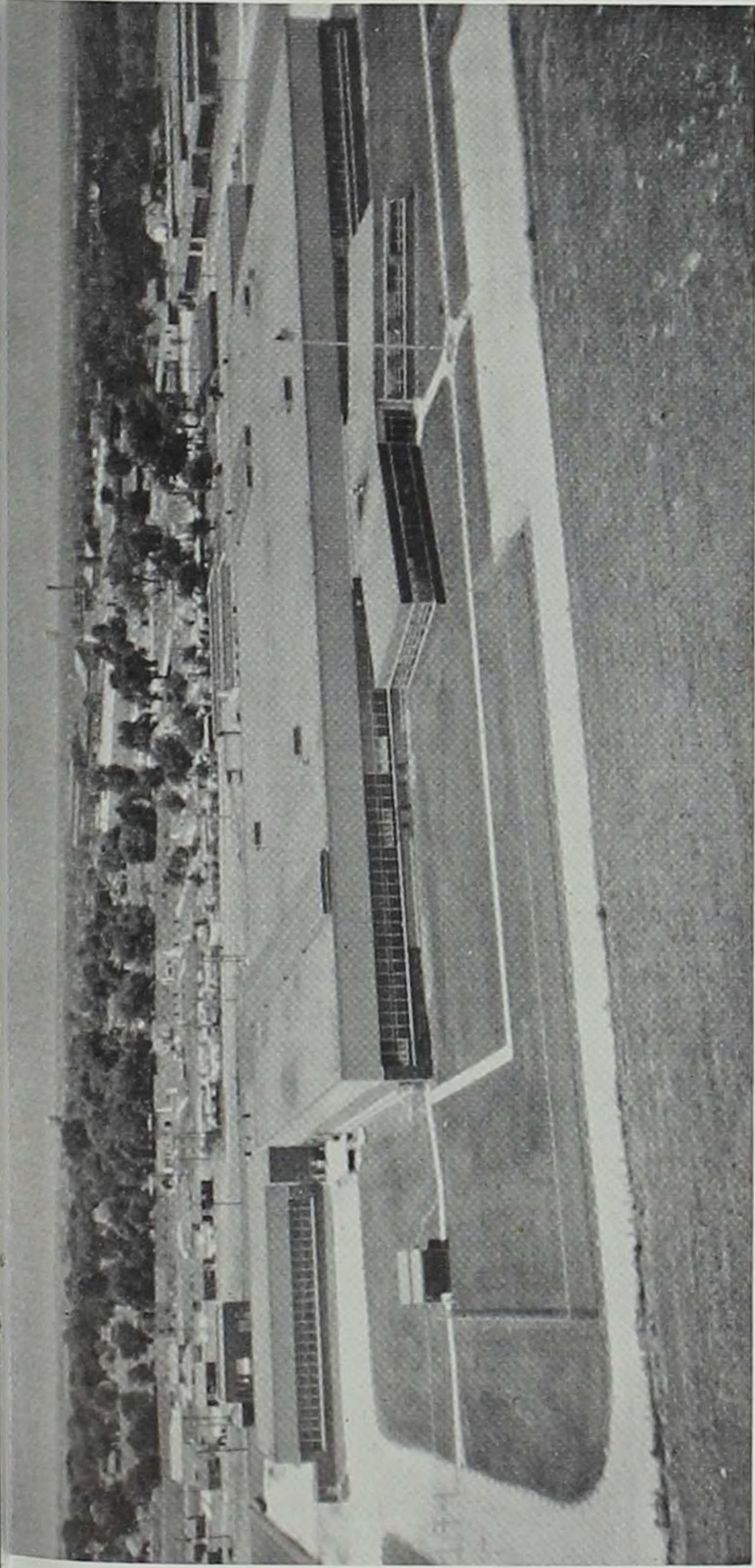
The Ames facility of Bourns started operations in January of 1956 when six people were employed to assemble selected products of the company's Trimpot Division. Growth since has been substantial and today the Ames plants are located on a 74-acre site which will allow for further expansion as demand for Bourns products increases beyond present production capacities. Some 1,000 workers are employed at Ames. Bourns products are used in thousands of vital industrial, commercial, and military applications throughout the free world. As a member of the Trimpot Division, the Ames unit manufactures electronic components and medical electronic equipment.



How would you like to work on items this small?

The manufacturing area is immaculately clean





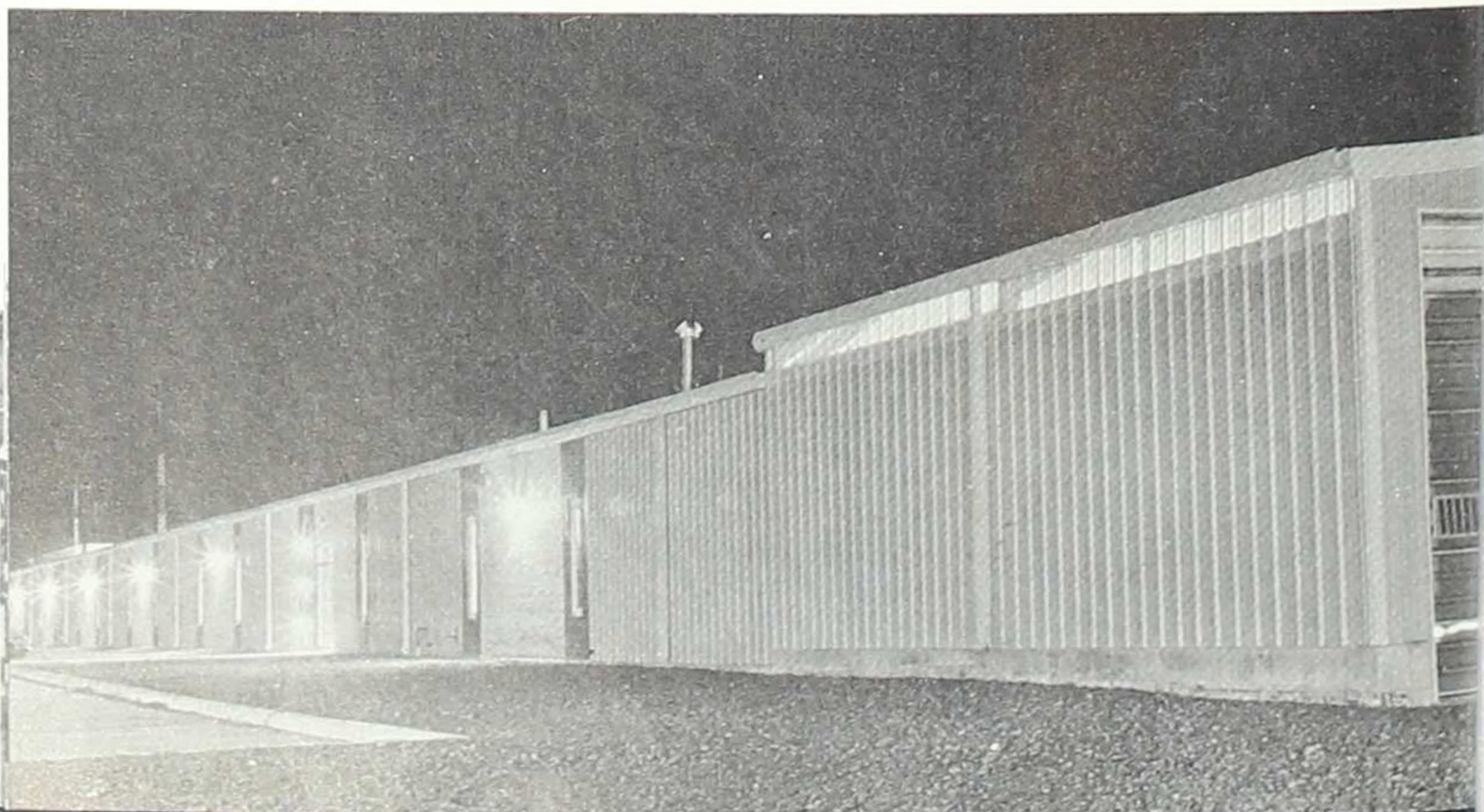
SYLVANIA ELECTRIC PRODUCTS, INC.: New York

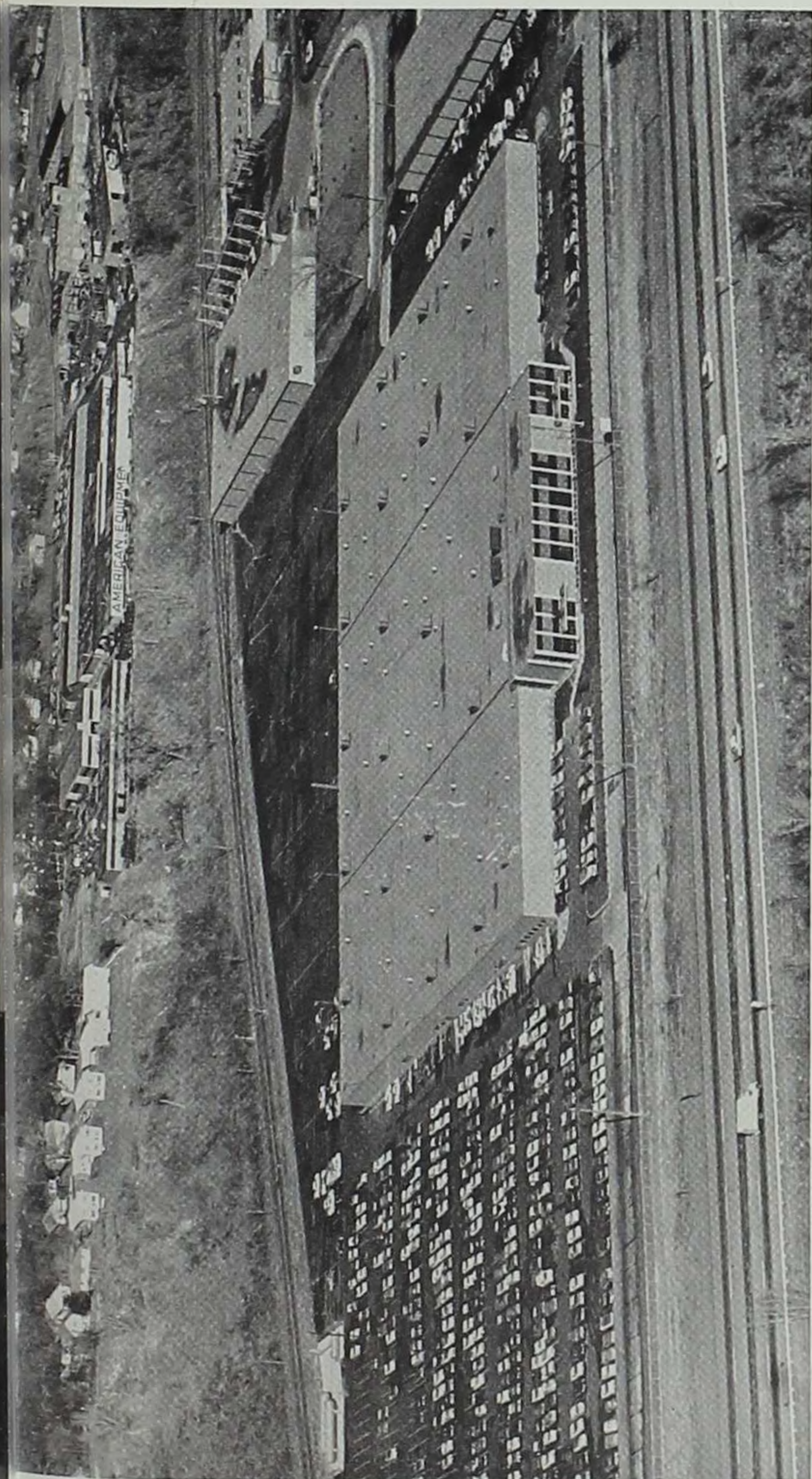
Sylvania hired the first workers for its new Burlington receiving tube plant in 1951 and the 200,000-square foot structure was dedicated the following year. By 1956 employment had reached 1,160, of whom 85% were women. Annual wages of \$7 million were paid to 1,500 employees in 1966. The Burlington plant functions as the Electronic Tubes Division, producing electronic tubes as well as others having industrial and commercial applications. Production of the tiny tubes is a painstaking process with 10,000 electrical measurements being required for each lot, while assembly, processing, and testing involve 62 different steps. Sylvania was merged into General Telephone & Electronics Corporation in 1959 and functions as a wholly-owned subsidiary.



STANDARD KOLLSMAN INDUSTRIES, INC.: Melrose Park, Ill.

Largest industrial development in Iowa in 1966 came in Ottumwa when Standard Kollsman started operations there with more than 1,000 employees — 1/10 of the state's new industrial employment for the year. A building constructed by the Ottumwa Area Development Corporation was leased. In its first year in Ottumwa, Standard Kollsman paid its workers wages totaling more than \$3 million. The plant manufactures UHF and VHF tuners for both black and white and color television sets.

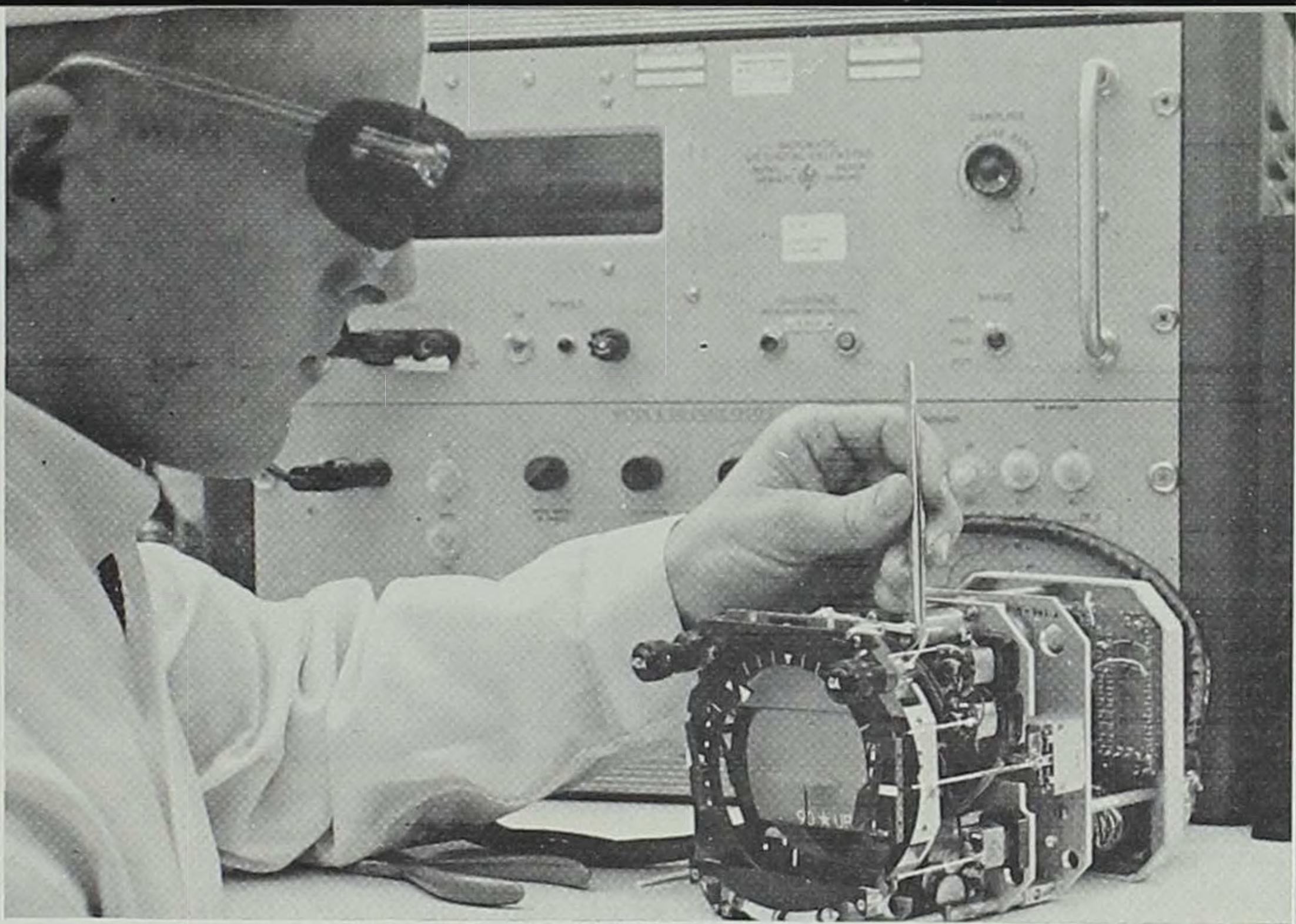




ZENITH RADIO CORPORATION: Chicago

Wincharger Corporation was founded in 1934 in Sioux City by two brothers — John and Gerhard Albers. It is now a subsidiary of Zenith Radio Corporation. The Sioux City firm manufactures radio sets and electronic components, Winco power alternators, dynamotors, universal motors, and special purpose power supplies. Two plants in Sioux City give employment to well over 1,500 residents of that city.





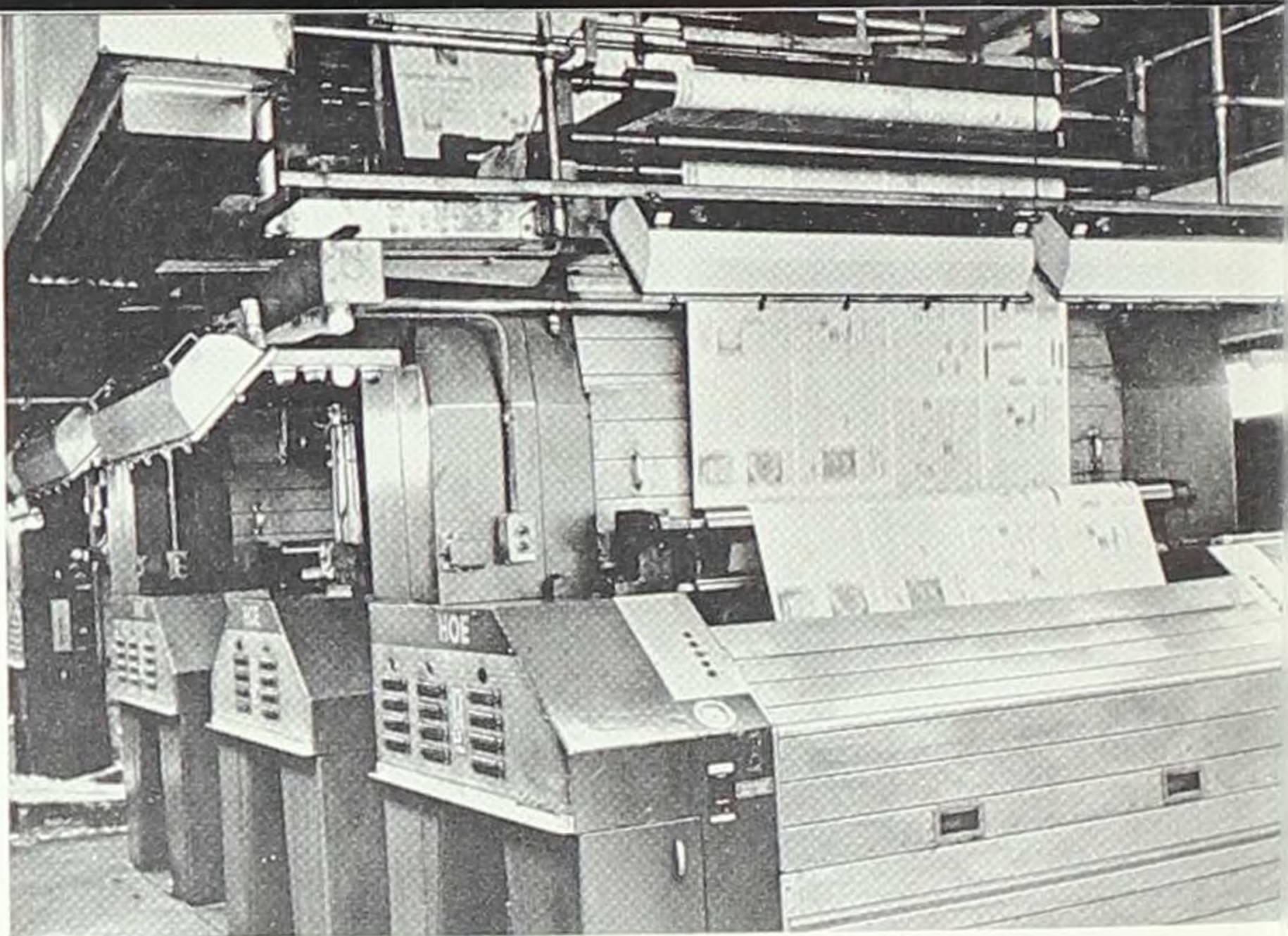
Testing an aircraft flight director

COLLINS RADIO COMPANY: Dallas

Collins Radio's amazing growth is one of the great stories in Iowa's industrial development. Founded in 1933 with one plant and five employees, it is the largest single employer in any one Iowa city with 11,500 employees in Cedar Rapids and an annual payroll of \$75 million. Starting as a small manufacturer of amateur radio equipment, Collins has expanded to a worldwide organization with 20,000 employees, annual sales of \$400 million, and is a manufacturer of more than 1,000 products. Company philosophy has been to develop and manufacture electronic equipment of advanced design and highest quality. Principal products are communication, navigation, and flight control equipment for commercial airlines, military aircraft, and general aviation; data communication and processing equipment for industrial and military users; specialized military communication systems; manned space flight communication systems; and amateur radio communication equipment.

Instrument panel of a twin-engine turbo prop plane contains many dials for Collins equipment used in communication, navigation, and flight control.





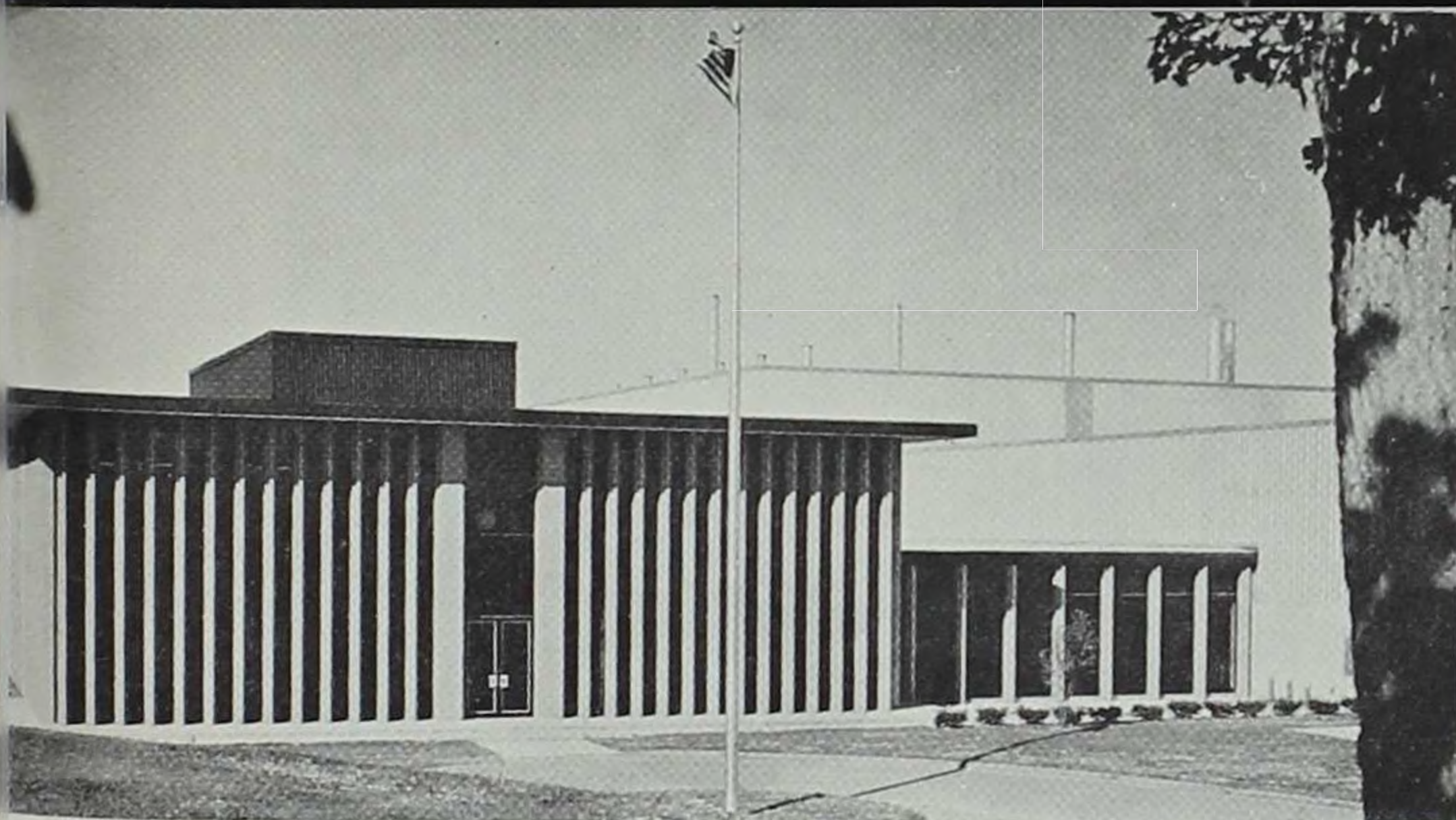
Newest and fastest of the Register's presses

DES MOINES REGISTER AND TRIBUNE COMPANY:
Des Moines

In addition to being Iowa's largest newspaper publisher, the Register and Tribune Company is also a large employer. The company, incorporated in 1902, publishes the morning *Des Moines Register*, the evening *Des Moines Tribune*, and the *Sunday Register*. The latter has the largest circulation, having jumped from 375,000 in 1940 to over 520,000 in 1966. During the same period the company's employ-

ment has risen from 800 to 1,100 persons and its annual payroll from \$2,140,000 to \$8 million. Gardner Cowles acquired control of the company in 1903. Gardner Cowles, Jr., is the current president. Plans for the future call for a 4-story addition to the present plant comprising a 2-story loading area plus 2 floors.





Printing Office Building



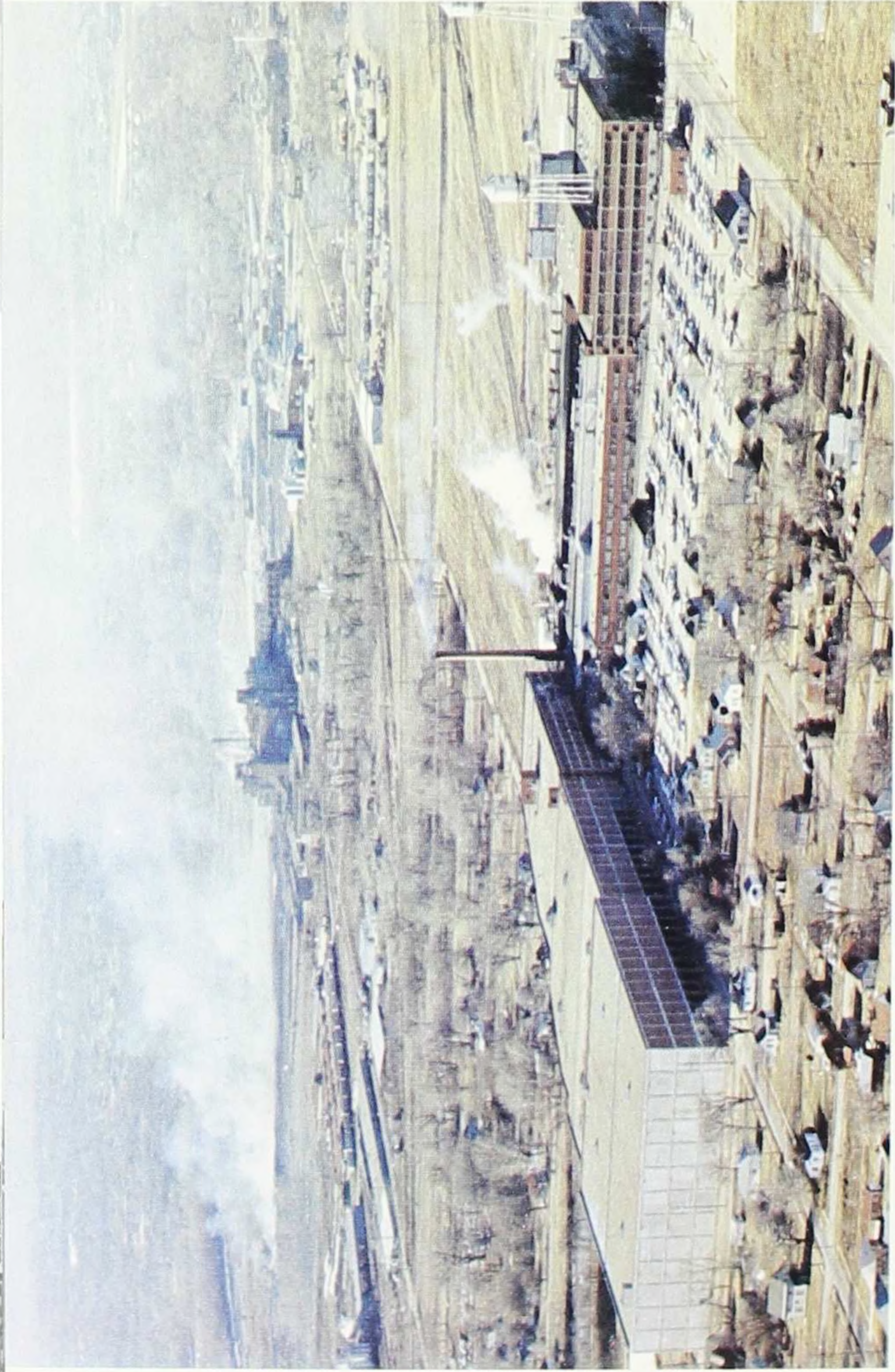
FRED BOHEN

**MEREDITH PUBLISHING COMPANY:
Des Moines**

In 1902 Edwin T. Meredith began publishing a new magazine, *Successful Farming*. This was the start of the Meredith Publishing Company which, in 1912, moved into a new plant containing 55,000 square feet. It has steadily expanded until its plants now contain 920,500 square feet of space. Employment has risen from eight to 2,080 persons with an annual payroll of \$14,229,000 by 1966. *Successful Farming* has a circulation of 1,300,000, while Meredith's *Better Homes and Gardens* has over 6,750,000. From the magazines and from its various divisions, the company had sales of \$100,403,000 in 1966. F. O. Bohen is chairman and chief executive officer and Darwin Tucker, president.

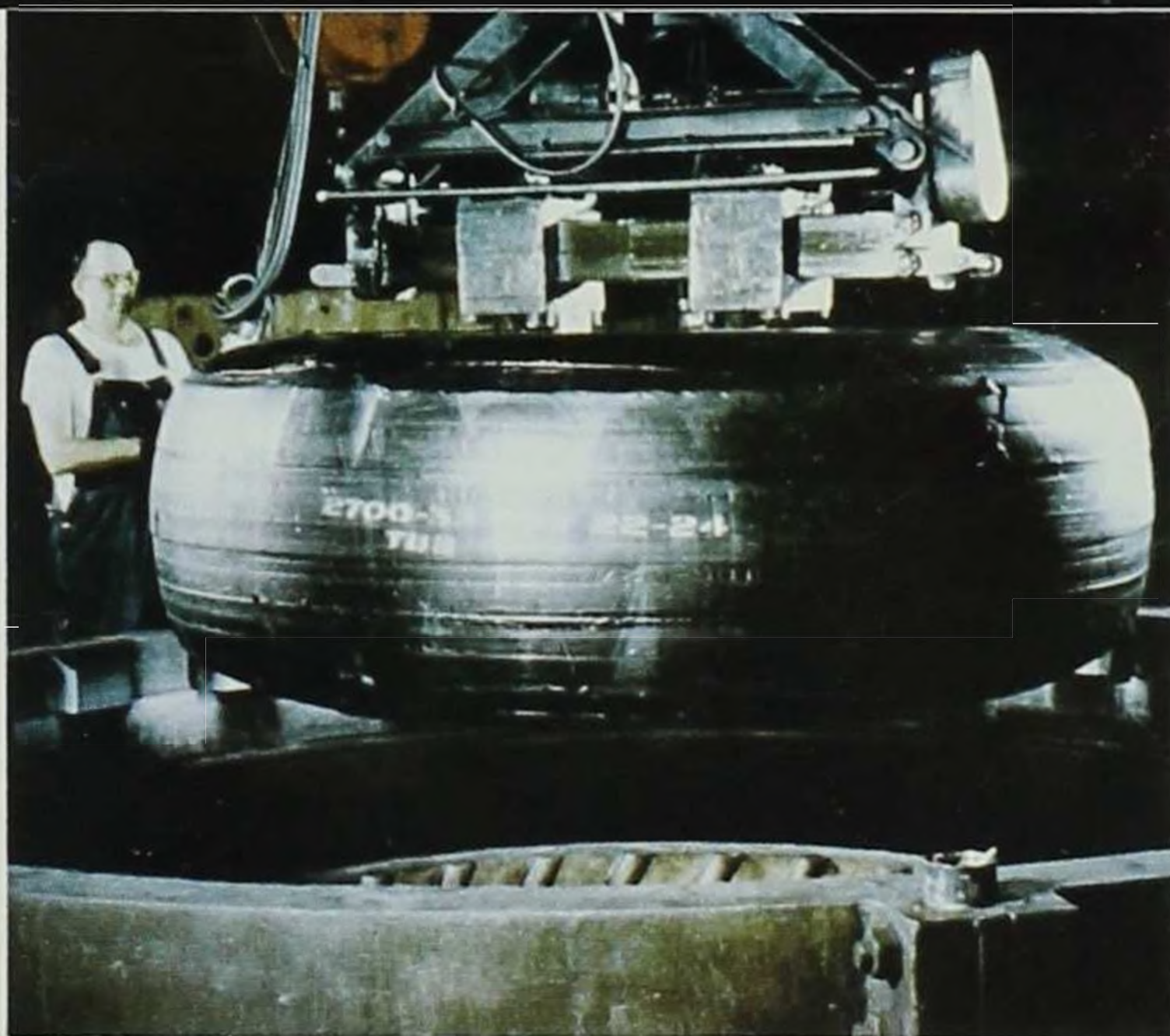
Printing plant





THE ARMSTRONG RUBBER COMPANY: West Haven, Conn.

The Lake Shore Tire & Rubber Company, which was organized at Des Moines in 1927, was sold to Armstrong in 1943. In 1940 the plant had 250 employees producing 2,500 tires a day; by 1966 employment had reached 1,385 and a yearly payroll of \$11 million. Production is primarily tires for passenger cars, mobile home trailers, trucks and buses, tractors, industrial pneumatic, farm tractor and implement, aircraft, and tire recapping material. The Des Moines factory is the largest of four Armstrong plants, producing about 4,360,000 units annually. A \$6 million capital improvement program, expected to be completed by 1970, will increase output substantially.



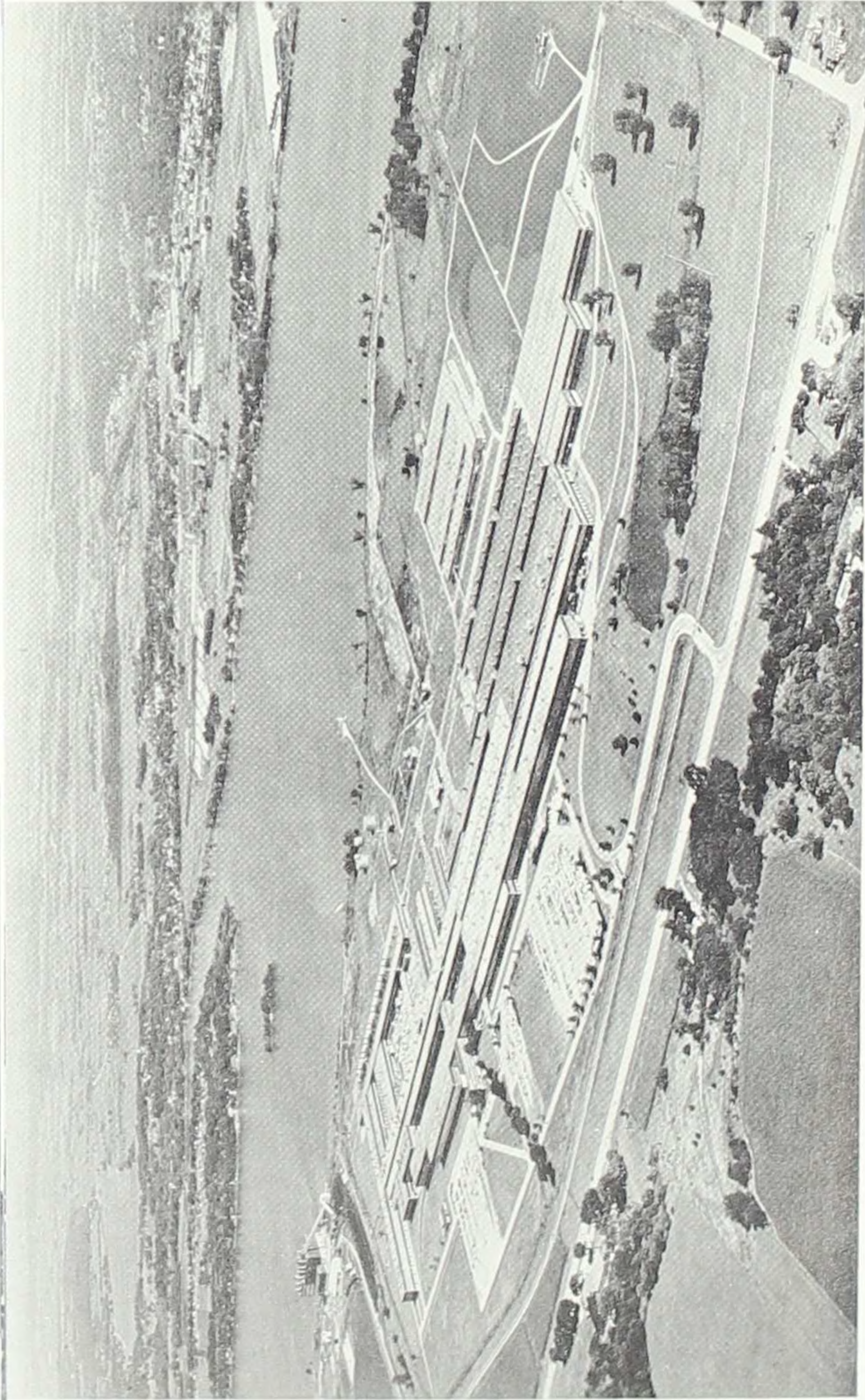
135

Loading giant excavator tire into curing unit

THE FIRESTONE TIRE & RUBBER COMPANY: Akron, Ohio

The government began construction of a rubber plant at Des Moines in 1944. When war ended production of high flotation tires to float military vehicles over mud and sand, Firestone purchased the \$4 million plant. This ultra-modern unit now employs 2,400 workers with an annual payroll of \$24 million. One tire every four seconds comes off the assembly line — a total of 22,000 passenger tires a day. An additional 600 truck, 1,200 rear tractor, and 84 earth mover tires can be produced daily. The largest tire cured is a 48x68 earth mover. It is four feet wide at its greatest width and is 10 feet, 11½ inches in diameter. This plant is the largest single user of electricity in Des Moines, consuming enough to supply a city of 25,000. It also uses water sufficient for a city of 10,000.





ALUMINUM COMPANY OF AMERICA: Pittsburgh

One of the great additions to Iowa's industrial economy since World War II was Alcoa's sheet, plate, and foil rolling mill at Riverdale just outside Davenport. This huge industrial unit, which is located on a 432-acre site (85 acres of which are under the plant's roofs), began production in 1948. An expansion program costing \$62 million was completed in 1958. The mill is aptly referred to as "acres of aluminum," because that metal was used in building the original plant. The 4-story administration building was the world's first multi-storied, all aluminum-walled building. In 1966 the mill employed 3,500 workers with an annual payroll of \$32,500,000.



Fisher Office Building

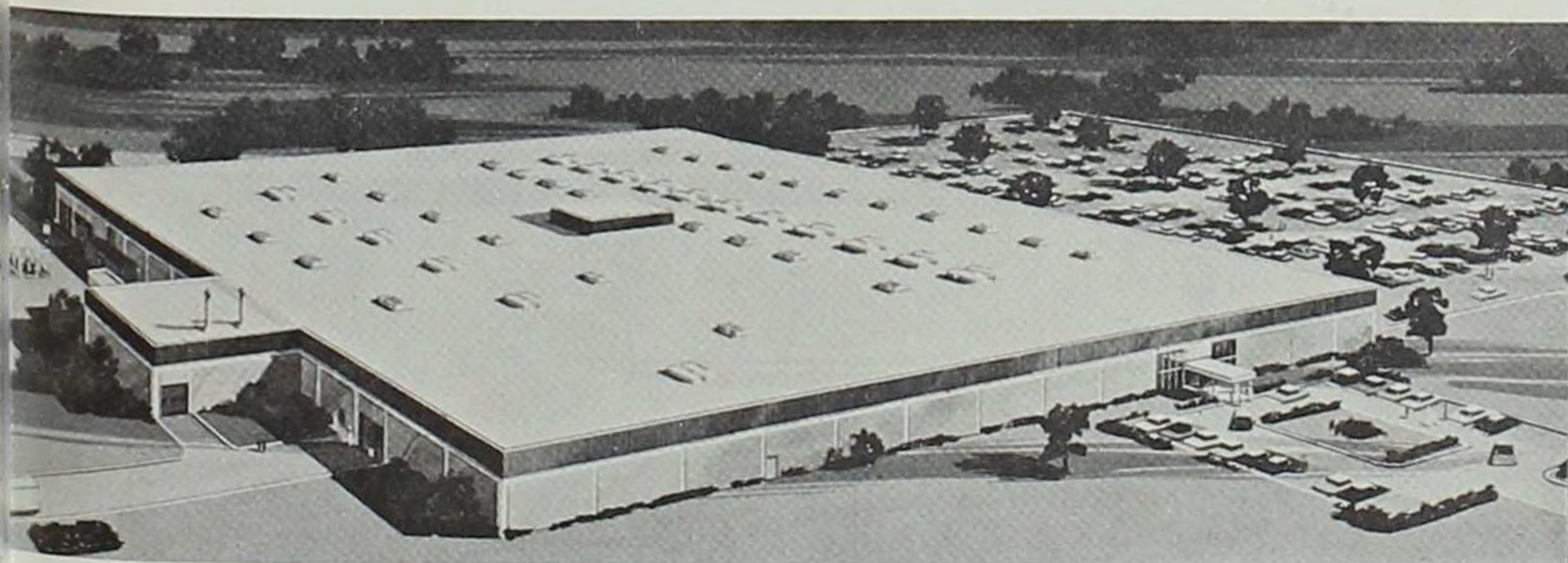


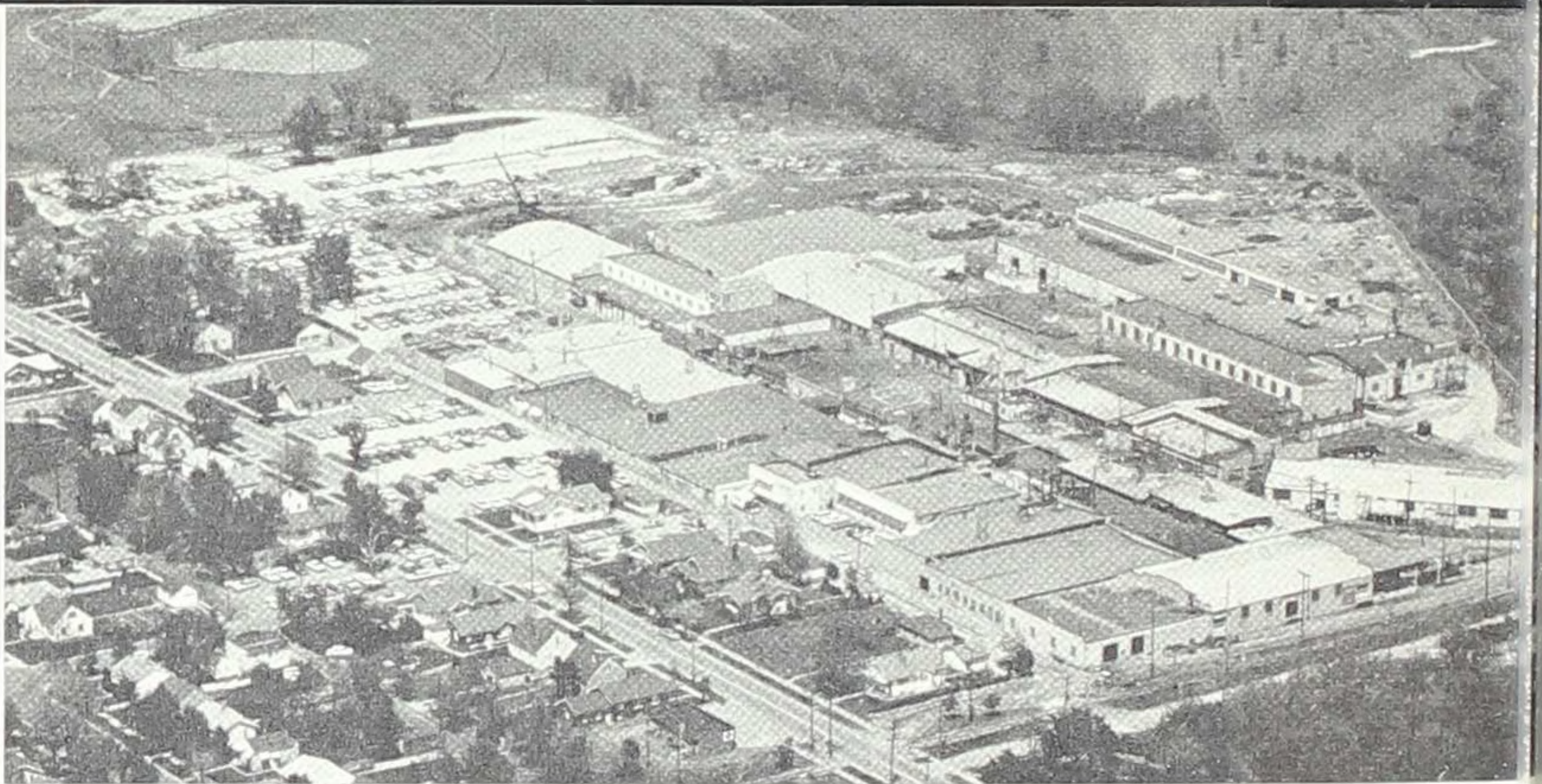
J. W. FISHER

**FISHER GOVERNOR COMPANY:
Marshalltown**

Founded in 1880 by William Fisher, Fisher Governor is now the world's largest exclusive manufacturer of automatic pressure control valves, liquid level controllers, and liquefied petroleum gas pressure regulating equipment. With only 14 employees in 1912, the firm now employs over 3,000 and has five manufacturing divisions in North America. Under President J. W. Fisher, the founder's grandson, the company had sales of \$62 million in 1966. Going into production in the spring of 1967 is a 360,000 square foot manufacturing plant which will double the floor space of the Marshalltown manufacturing division.

Fisher Governor Road plant

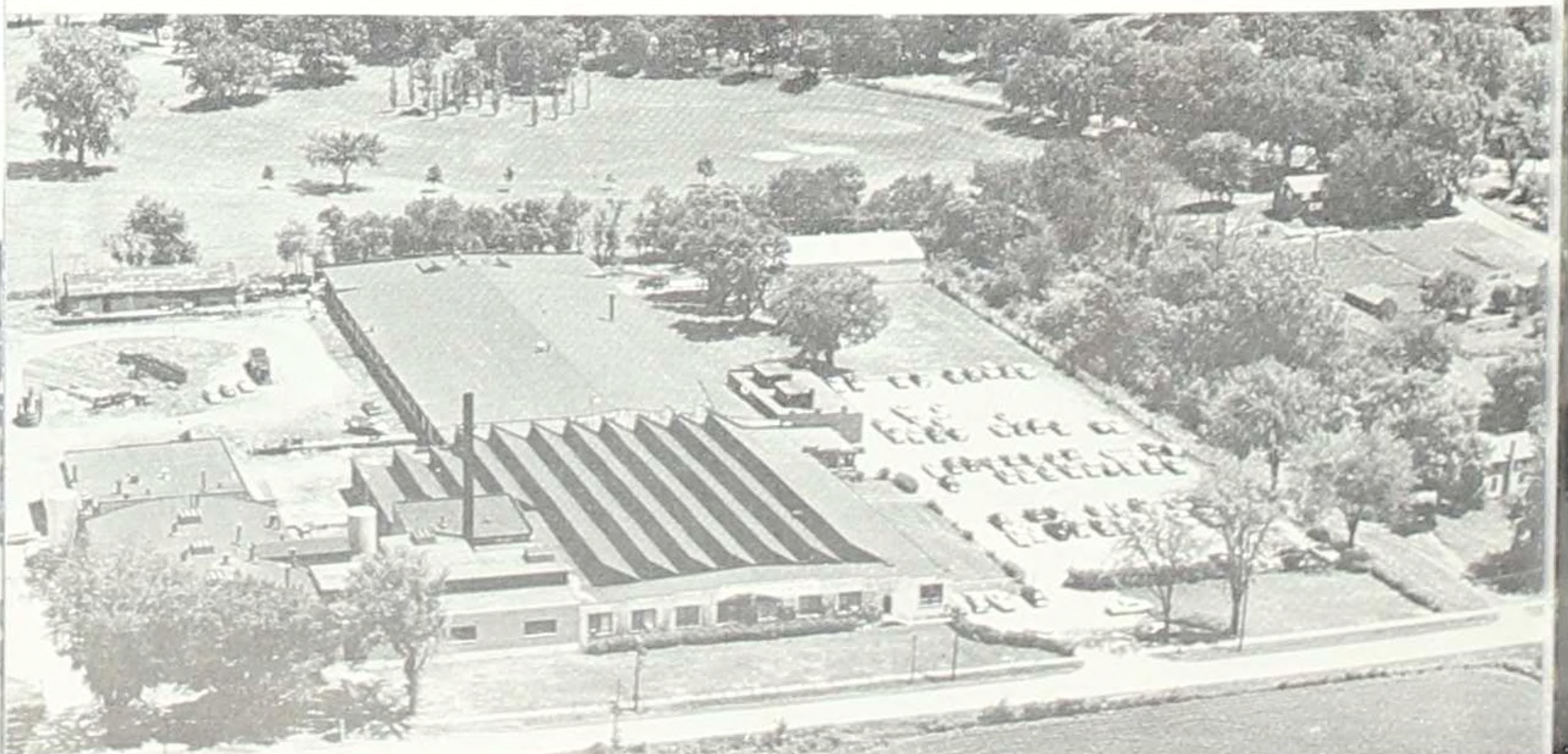




CHAMBERLAIN CORPORATION: Waterloo

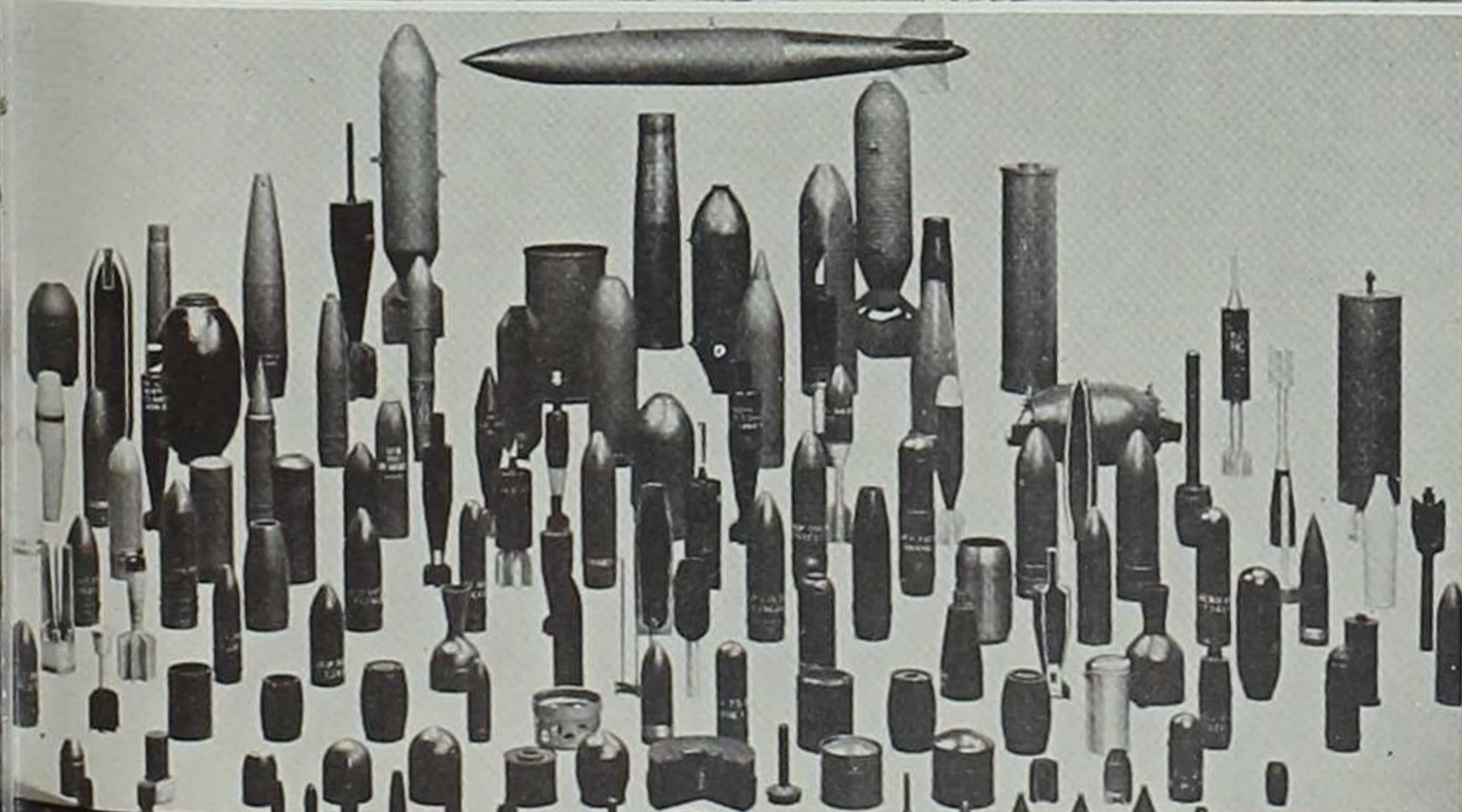
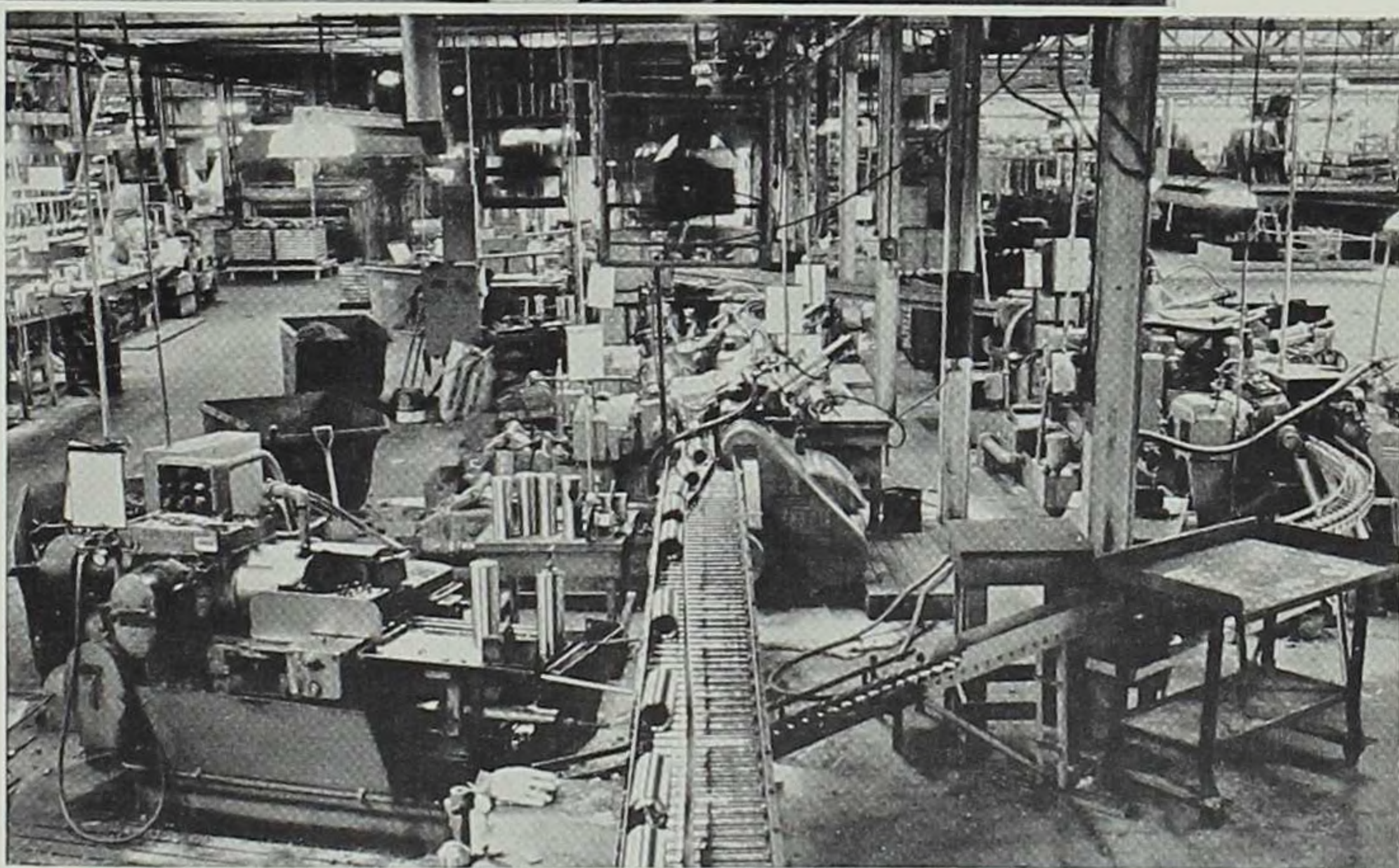
Organized in 1905 by Andrew and Floyd Chamberlain, the Chamberlain Corporation has been growing rapidly in recent years. The Collis Company of Clinton was purchased in 1964; majority control of Wagner Manufacturing Company and its subsidiary, Waterloo Wood Bearing Company, both of Waterloo, was purchased in 1965; and majority control of Moloney Products, Incorporated, Albia, was acquired in 1965. With the new acquisitions the company has expanded its line of products considerably. Chamberlain is involved in ordnance munitions research and manufacture, processes aluminum refrigerator shelves and baskets, decorative metals, and produces custom stampings and forgings. The Wagner plants produce home and commercial garage and overhead doors and specialized wood products; Collis manufactures steel and wire specialties and machine tool accessories; and Moloney produces aluminum storm doors and windows. The Iowa employees of the company total 1,735.

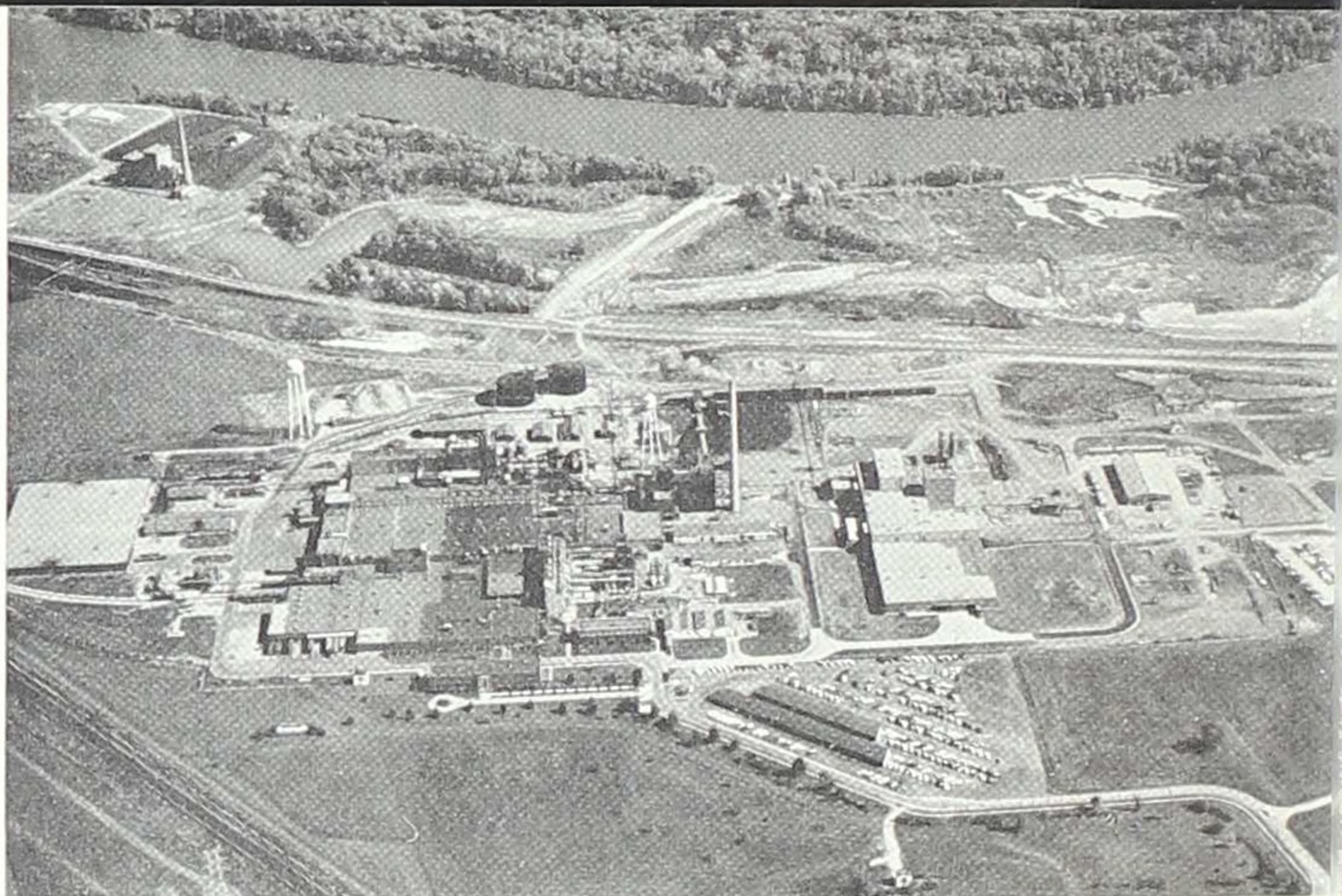
(Above) Pictured are the Chamberlain plant in Waterloo and (below) Collis plant in Clinton. (Opposite page, top to bottom) Machine accounting procedures have helped in handling the company's increasing business. A typical shell production line at Waterloo, and some of the ordnance material made by Chamberlain.





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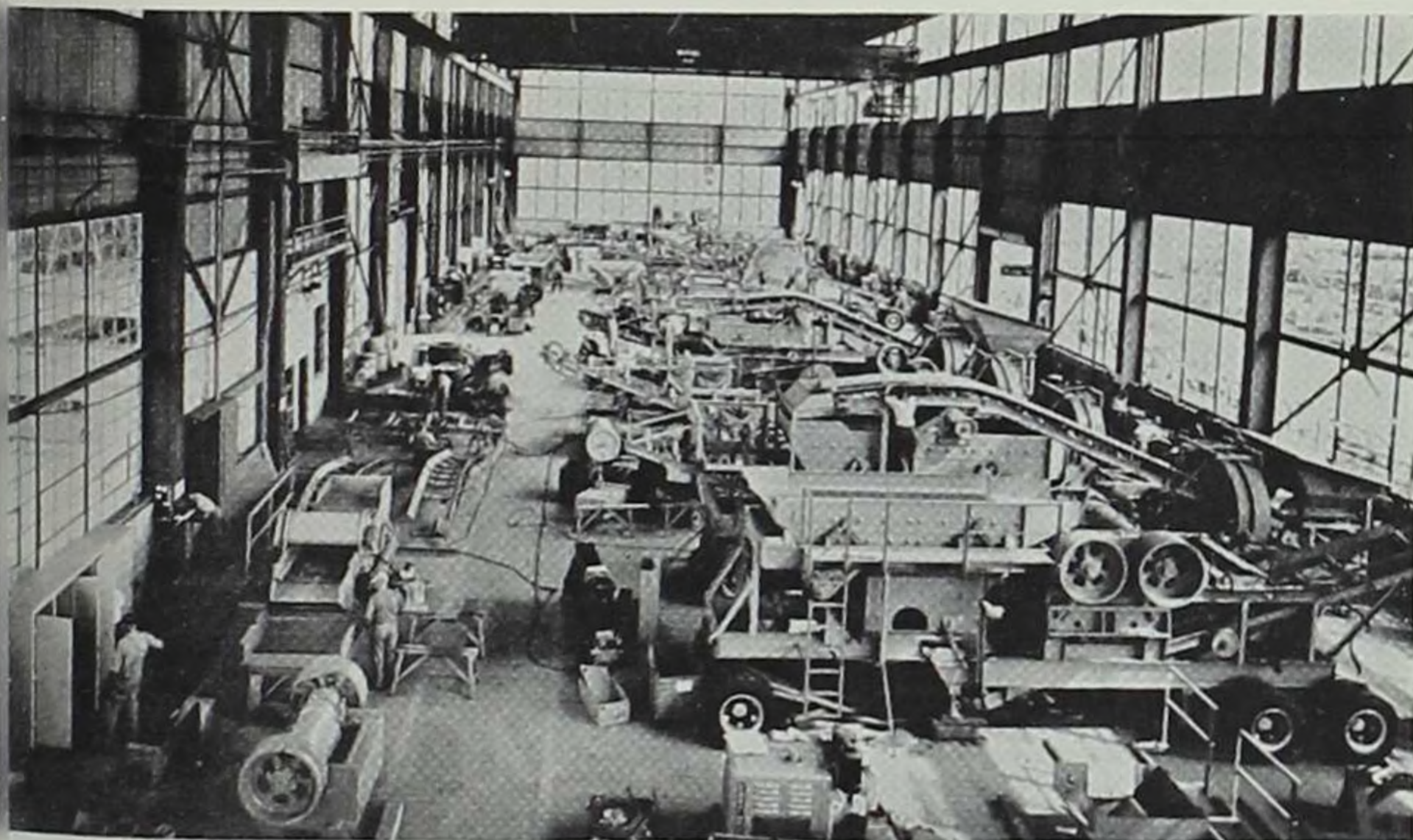




E. I. duPONT de NEMOURS & COMPANY, INC.: Wilmington, Del.

Among the oldest and most famous of all American industrial firms is DuPont, established in 1802. Among the company's newer facilities is the Clinton plant (above). It was built in 1940 on a 220-acre tract of land near Clinton for the manufacture of cellophane. The plant employs 1,300 persons and provides an annual payroll of about \$10,400,000. The company also has a plant at Fort Madison (below) manufacturing paint, varnish, thinner, and can coatings. Approximately 300 workers are employed at annual wages of \$2,194,000.





HOWARD HALL

**IOWA MANUFACTURING COMPANY:
Cedar Rapids**

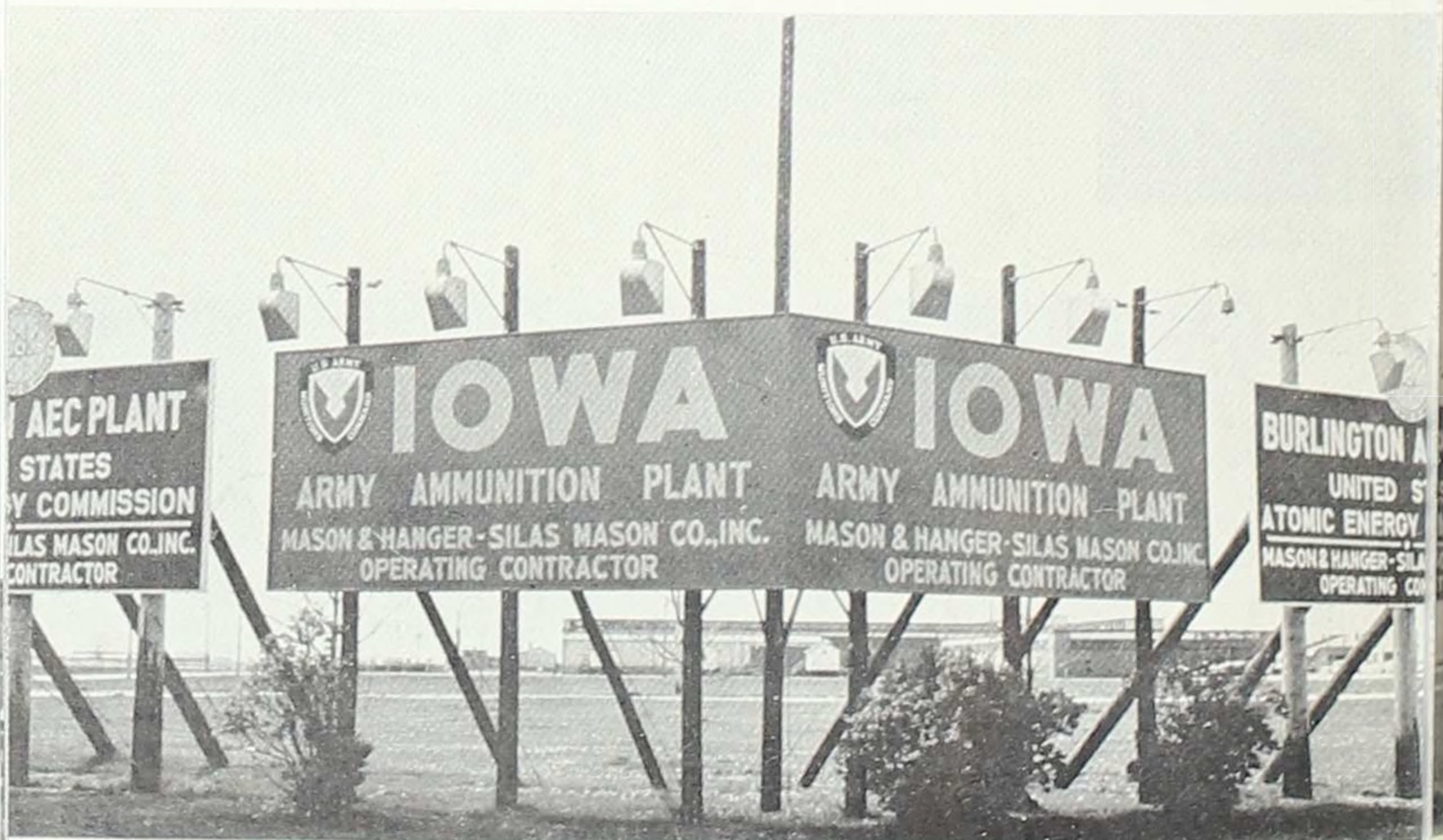
Iowa Manufacturing's president, Howard Hall, in 1923 purchased the property of the Bertschey Engineering Company in Cedar Rapids. From this small plant of 12,158 square feet, the company has grown to become the world's largest producer of portable crushing, screening, and washing equipment. These products are used in many foreign countries as well as throughout the United States. Today the company has approximately 1,700 employees.

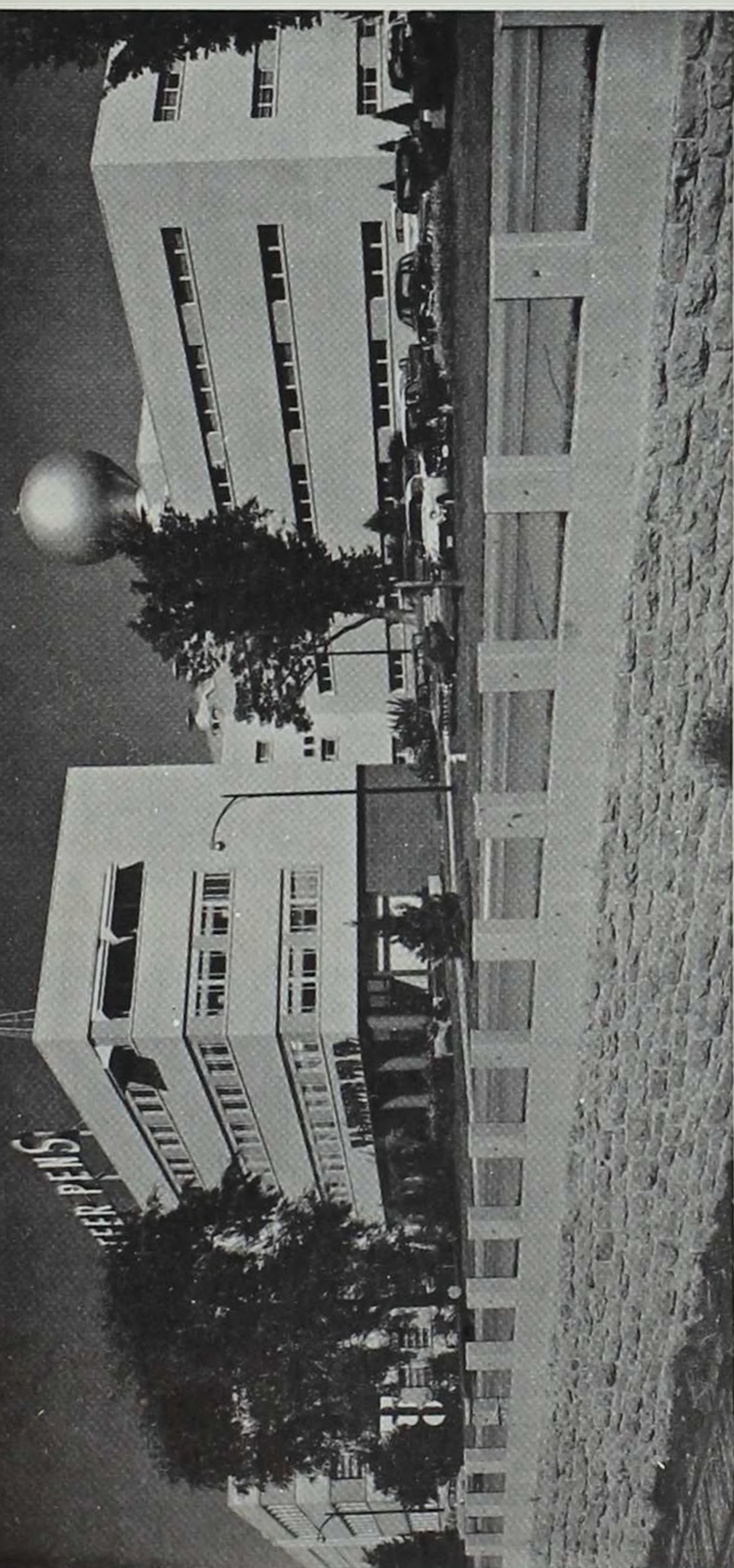




MASON & HANGER-SILAS MASON CO., INC., Lexington, Ky.

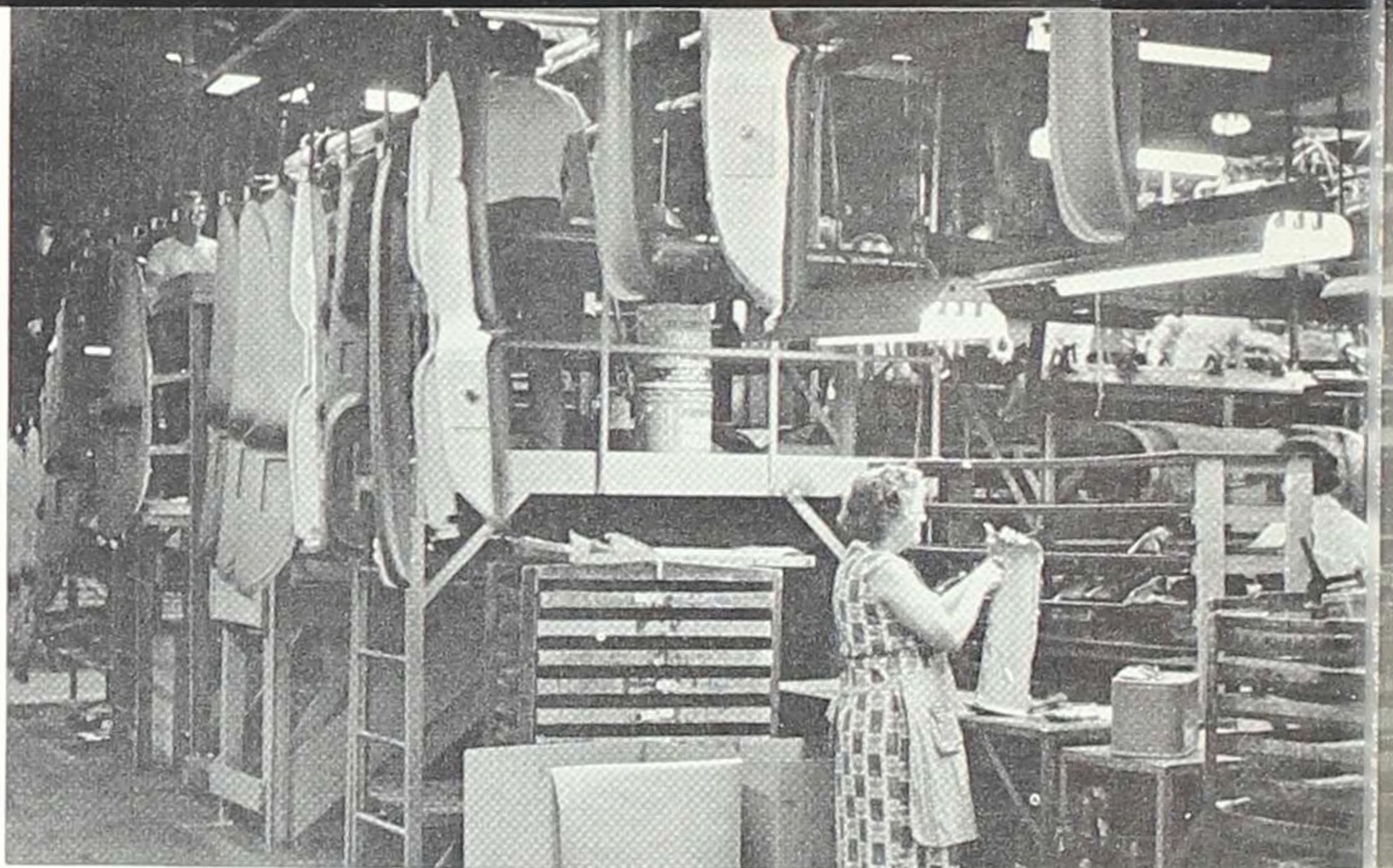
Founded in 1827, Mason & Hanger-Silas Mason is the contractor-operator of the Iowa Army Ammunition Plant and the Burlington AEC Plant near Burlington. Its operations in Iowa started in 1947. Employing 3,515 workers and with an estimated 1966 payroll of \$24 million, the company loads and assembles weapons, ammunition and ammunition components for the United States Army and the Atomic Energy Commission.





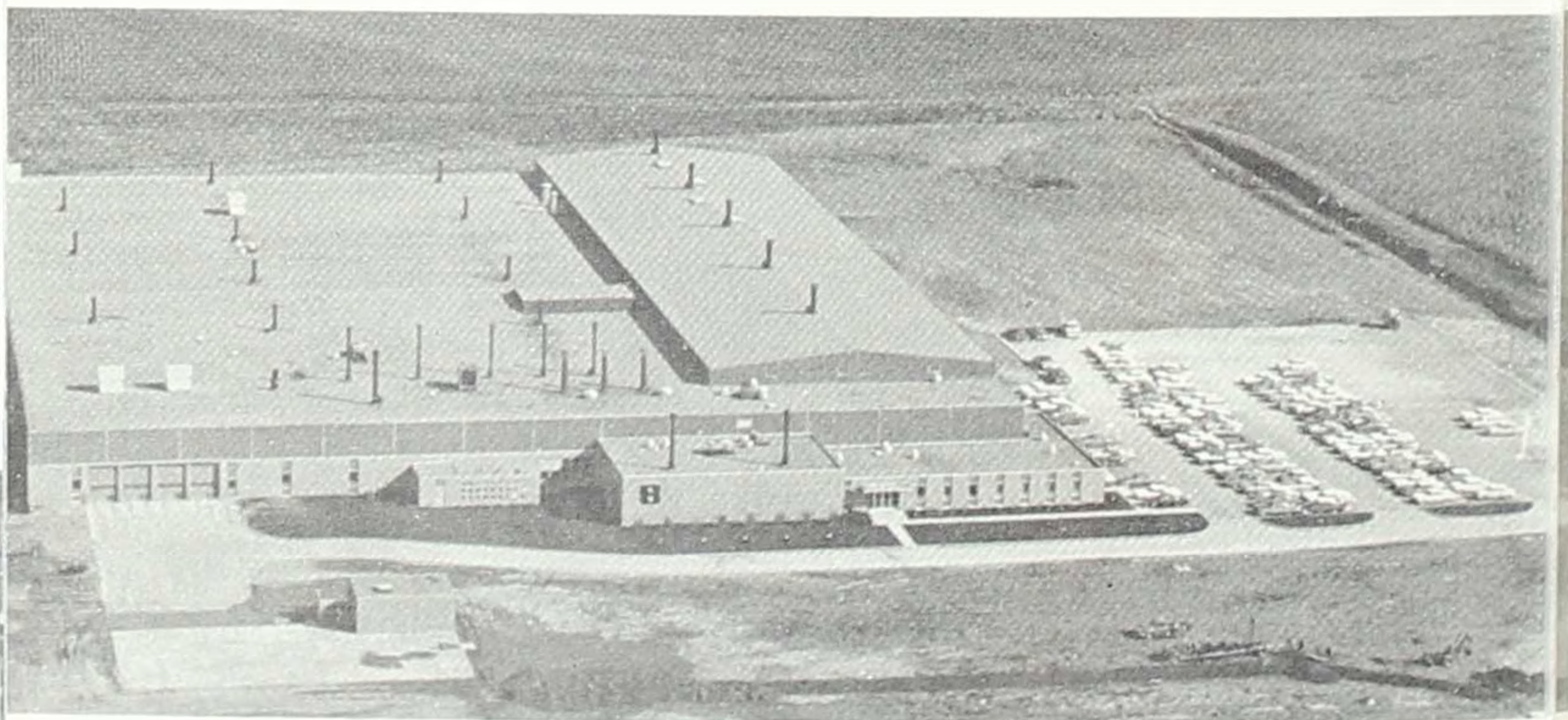
W. A. SHEAFFER PEN CO.: Fort Madison

Certainly one of Iowa's best-known companies, Sheaffer was founded in 1913 by a Fort Madison jeweler, W. A. Sheaffer. That first year the company had seven employees and net sales of \$85,000. In 1965 it had 1,350 employees. Since the 1920's Sheaffer has been, with few exceptions, the largest manufacturer of pens and mechanical pencils and has many "first" to its credit. It has two plants in Fort Madison producing writing instruments, fountain pens, ball points, markers, mechanical pencils, leads, and erasers. Sheaffer became a subsidiary of Textron Co. in March of 1966.



SHELLER-GLOBE CORPORATION: Toledo, Ohio

In 1948 Sheller Manufacturing Corp. purchased the Dryden plant in Keokuk. After the Sheller purchase the plant operated as the Dryden-Keokuk Division. Sheller merged with Globe Wernicke Industries in 1966 and the new corporation started in Iowa with plants in Keokuk (see back cover) and Iowa City (below). The latter plant was established in 1964. Sheller-Globe's more than 2,000 workers received in excess of \$10 million in wages in 1966. Manufactured at the Keokuk plant is sponge rubber, padded trim items, ABS and plastisol covers (safety devices and weather strips). The Iowa City plant produces polyurethane foam and plastisol products.



IOWA MANUFACTURING STATISTICS*

Totals for all manufacturers: 1899-1963

Year	Establish- ments	Employees	Salaries & wages	Value added by manufacturers
1899	4,828	49,579	\$ 22,253,000	\$ 47,092,000
1909	5,528	73,037	43,514,000	88,531,000
1919	5,104	98,470	122,168,000	221,757,000
1929	3,317	97,414	137,243,000	323,820,000
1939	2,541	88,054	114,087,000	243,390,000
1947	2,965	140,425	372,339,000	671,100,000
1954	3,320	163,669	648,361,000	1,235,965,000
1963	3,496	178,199	1,046,675,000	2,287,001,000

Totals by product: 1953-1963

Products	1953		1963		
	Employees	Value added	Employees	Salaries & wages	Value added
Food	48,374	\$353,913,000	50,356	\$304,457,000	\$653,155,000
Apparel	3,706	12,295,000	3,158	9,631,000	16,961,000
Printing and pub.	9,852	77,106,000	12,036	64,234,000	128,225,000
Chemical	5,869	65,602,000	4,946	29,956,000	152,165,000
Rubber	3,889	33,204,000	(Figures withheld)		
Stone, clay, and glass	5,601	51,569,000	5,901	33,383,000	96,224,000
Primary metal	5,628	40,060,000	7,177	48,376,000	107,979,000
Fab. metal	7,686	51,701,000	9,249	51,365,000	101,304,000
Machinery	37,237	281,424,000	35,484	229,484,000	476,926,000
(ex. electric)					
Elect. machinery	9,139	49,413,000	19,635	107,380,000	252,644,000
Transportation equipment	4,567	25,882,000	2,644	14,068,000	26,781,000
Instruments	1,895	13,494,000	2,447	14,948,000	26,867,000
Miscellaneous	12,562	57,528,000	5,428	24,576,000	51,310,000

Ten leading industrial counties

County	1953		1963	
	Employees	Payrolls	Employees	Payrolls
Polk	23,515	\$90,408,000	21,621	\$135,022,000
Linn	19,221	74,180,000	23,771	149,147,000
Black Hawk	17,582	74,020,000	18,265	118,966,000
Scott	14,306	57,224,000	13,353	88,880,000
Dubuque	11,739	44,400,000	10,911	70,366,000
Des Moines	11,025	36,820,000	8,314	43,460,000
Woodbury	10,098	36,476,000	7,300	40,917,000
Lee	6,651	24,320,000	6,211	35,090,000
Clinton			5,732	34,161,000
Wapello	7,227	30,160,000	5,571	38,239,000
Jasper	5,860	24,108,000		

*Source: United States Census of Manufacturers



Sheller-Globe Plant, Keokuk

